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THE GEOGRAPHY
OF
THE BRITISH ISLANDS.

LONDON

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THE GEOGRAPHY OF BRITISH HISTORY:

A GEOGRAPHICAL DESCRIPTION OF

THE BRITISH ISLANDS

AT SUCCESSIVE PERIODS

FROM THE EARLIEST TIMES TO THE PRESENT DAY:

WITH A SKETCH OF THE COMMENCEMENT OF COLONISATION
ON THE PART OF THE ENGLISH NATION.

BY WILLIAM HUGHES, F.R.G.S.

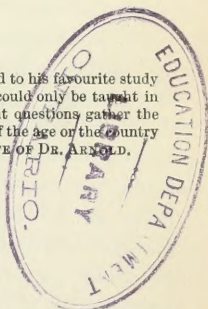
AUTHOR OF 'A MANUAL OF GEOGRAPHY' ETC.

—'he himself, with that familiar interest which belonged to his favourite study of history and of geography, which he always maintained could only be taught in connection with it, would by his searching and significant questions gather the thoughts of his scholars round the peculiar characteristics of the age or the country on which he wished to fix their attention.'—STANLEY'S LIFE OF DR. ARNOLD.

LONDON:

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PREFACE.

THIS book owes its origin to the Evening Classes of King's College, London. In conjunction with a fellow-labourer, the Author, during several successive winter-sessions, has been pleasingly engaged in the conduct of a class formed for the study of English History and Geography—the last-mentioned division of the subject falling to his own share. From the commencement of his task he felt the want of any sufficiently comprehensive work on the geography (historically as well as politically treated) of Great Britain and Ireland, such as he could recommend to the members of his class for use as a text-book. The endeavour to supply this want, and also the higher aim of producing such a work as may be found an available and useful companion to students in general of our country's annals, has led to the production of the "Geography of British History."

Those who have been accustomed to look at geography in its historical aspects, whether with reference to the countries of antiquity or to those of later times, will be at no loss to comprehend the sense in which the phrase "Geography of British History" is used by the writer. A glance at the contents of the earlier half of his volume will more particularly indicate the way in which the subject has presented itself to his view. By the geography of history, the writer understands not only what is universally admitted, at least in theory, to constitute the

basis of all historical study — viz., a description of the natural features, climate, and productions of a country; but, in addition, some account of its race (or races) of people, of their place in the family of nations, and of the successive stages by which they have advanced towards the position at which their proper history as a distinct nation begins. To these subjects he adds a commentary (geographical in its main features and purpose) on such external events as require reference to the Map for their full comprehension, and an adequate appreciation of which is admittedly necessary, not merely for the sake of the facts themselves, but from their place in the record of those changes, social and political, which belong to the higher aims of history. With these latter, the writer does not affect to interfere: he seeks only to cast on them such light as geography — using the word in its highest sense — may hope to supply. The distribution of population and industrial pursuits, the foreign and internal trade of a nation, and the characteristic conditions of its manufacturing and commercial industry, may be claimed as constituting a portion of his subject so regarded.

It may seem superfluous, in the present day, to offer any remark upon the importance of Geography as a branch of general study. Yet the writer believes that the value (and even necessity) of Geography, as forming part of a sound education, though universally admitted in theory, is very far from being recognised in practice. The geography still taught in too many of our schools is miserably defective — hardly, indeed, worthy of the name. It consists, too often, in little more than a dry and dull routine of names, appealing to the memory alone — unfruitful of any stimulus to the reflective powers of the mind, and unsuggestive of any connection with the higher aims of study. This (his own experience leads him to believe) is even yet, in a large

proportion of instances, the geography of ordinary middle-class education in our own country: in our higher seminaries of learning, Geography, in its modern aspects and relations, is scarcely recognised as worthy of being taught at all. Its very existence as a branch of study is ignored in our universities, and its culture, to whatever purposes pursued, leads to no direct result in the way either of honour or more substantial reward.* And this in a country which, more than any other, involves on the part of its citizens daily (and even hourly) contact with the productions of distant lands, and the place of which amongst the nations of the earth is intimately connected with a dominion exercised over the most distant lands and seas! Every ship which enters or leaves a British port, and nearly every article which ministers to the supply of our daily household wants, is standing evidence of the desirability of geographical knowledge on the part of the citizens of the British nation. The comparative neglect of the means of its acquisition in our endowed educational establishments is matter of remark to every foreigner, cognisant of the place which scientific geography occupies in the course of study pursued in universities and high-class schools abroad.

The writer has sought elsewhere to indicate the place of Geography in connection with the physical sciences: it is in its relation to history that it is here chiefly regarded. Such relationship, too liable to neglect in the case of our own country, is fully recognised in the instances of the great historic countries of antiquity. Our students bestow (and

* The writer gratefully acknowledges the partial exception adverted to in the opening paragraph above — an exception which may be regarded, he would fain hope, as neither temporary in its nature nor final in its present object. Will none of the colleges for the education of the youth of Britain recognise *Geography* as worthy a place in its prescribed course of study, and as meriting the establishment of a professorship for the assistance of its culture?

worthily bestow) elaborate care upon the geographical conditions of Greece and Italy, of ancient Egypt and Assyria. The minutest topographical details that are associated with the names of Marathon and Salamis, with the campaigns of Hannibal or Cæsar, are diligently sought out by the student. Should not the student of British History entertain something of correspondent interest in connection with Bosworth and Naseby, Clarendon and Runnymede; in the "local habitation" of the races by which our islands have been successively peopled; in the extent of Anglo-Norman dominion on the Continent; and in the geographical discoveries which immediately preceded the planting of our earliest colonial settlements? Surely these and kindred topics are at least of equal importance to the youth of Britain, in the nineteenth century, with the topography of the Thrasimene Lake or the Caudine Forks.

The sources of information to which the writer has turned are for the most part indicated in the notes dispersed throughout the volume. He has, in addition, to express a general obligation, upon various points, to the elaborate articles upon the British and Irish counties contained in the "English Cyclopædia," and constituting one of its many admirable qualities. He would remark, finally, that his work is far from realising, even to himself—he can hardly venture to hope that it will do so to others—the ideal of what more extended opportunities of study, aided by the leisure which research demands, might have enabled it to become. It is difficult, often hardly possible, to draw the line between what falls within the province of geographical illustration, and what belongs more properly to history. It is equally difficult to prevent geographical description from passing into the domain of topography, and, with that, into a detail which would extend its limits far beyond the proportions of an ordinary text-book. It is owing chiefly to the latter

condition that his volume somewhat exceeds its intended dimensions, though not, he trusts, to such an extent as to interfere with its facilities of usage for the purposes above referred to.

LONDON: *December* 20, 1862.

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Errata.

- Page 20, lines 8 and 10, *for* (Glamorgan) *read* (Pembroke).
 „ 92, line 22, *for* Segelocum *read* Segedunum.
 „ 94 „ 3, col. 2, *for* Longus *read* Longum.
 „ 162 „ 23, *for* rebel *read* royal.

THE GEOGRAPHY OF BRITISH HISTORY.

CHAPTER I.

GENERAL VIEW OF THE BRITISH ISLANDS.

SITUATION. — The British Islands are a considerable group, lying off the western side of the European continent, and not far distant from its shores. They are surrounded by the waters of the Atlantic Ocean. They consist of two large islands — Great Britain and Ireland — with many smaller groups and detached islets. In all, upwards of five thousand islets (the vastly greater number of them mere rocks) are enumerated as constituting the entire group.

The most northerly point of the British Islands is the extremity of Unst (one of the Shetland Islands), in $60^{\circ} 49'$ N. latitude. The most southward point, in the group of the Scilly Islands, is in $49^{\circ} 53'$ N. lat. The extreme extent of the British archipelago, in the direction of north and south, is therefore $10^{\circ} 56'$ of latitude, equivalent to 756 English miles (or 1,210 kilometres).*

* A *kilometre* (1000 metres) is equal to 1093·638 English yards, and is to an English mile in the ratio of 1 to 1·6. One English square mile is equal to 259 *hectares*, which latter measure is most frequently employed in continental countries for measures of surface. A hectare contains 10,000 square metres. These measures are based upon the length of the *metre*, which is equal to 39·371 inches, and is the ten-millionth part of the earth's quadrant.

The extreme east point of the British Islands is Lowestoft Ness, in long. $1^{\circ} 46'$ east of Greenwich. The group of islets called the Blaskets, off the south-west coast of Ireland (near Dunmore Head), are in $10^{\circ} 36'$ W. longitude. Between their extreme eastern and western points the British Islands therefore extend through $12^{\circ} 22'$, equal (on the line of the 52nd parallel) to 527 English miles, or 843 kilometres, and correspondent to 49 minutes 27 seconds of time.

Probably no equivalent extent of land, throughout the globe, is so favourably situated for all purposes of maritime commerce as the British Islands. They lie at only a moderate distance from the shores of the continent, but within the waters of the most extensively navigated of oceans. Their shores, infinitely varied in contour, comprehend a greater extent of coast-line than belongs (with, perhaps, the single exception of Greece) to any other region, of correspondent superficial area. Between the coasts of England and France, at the narrowest portion of the Strait of Dover, the direct distance is scarcely more than 20 miles. This becomes increased, in the wider portions of the English Channel, to 60 miles, between the Isle of Wight and Cape Barfleur, on the French coast; and to 100 miles at the entrance of the Channel. On the eastern side of Britain, about 120 miles intervene between the mouth of the Thames and the estuaries of the Scheldt and the Meuse, on the Dutch coast. From the Humber to the entrance of the Elbe and the coast of the Cimbric Chersonese is a distance of about 350 miles. The southern and eastern sea-board of Britain is thus within easy access from the shores of the neighbouring mainland — at most, only a few hours' sail distant. This fact helps to explain much of the earlier history of Britain, and cannot be too constantly kept present to the mind of the student, either of British history or geography.

EXTENT. — The entire area of the British Islands is 119,729 square miles (31,009,811 hectares), which is less than a four-hundredth part of the total land area of the globe. Of

this extent, Great Britain comprehends 84,032 square miles (21,764,288 hectares), and Ireland 32,513 square miles (8,420,867 hectares), the smaller islands of the group making up the total. Great Britain comprehends England, Wales, and Scotland, which have respectively the following areas :

England . . .	50,923 sq. miles, or 13,189,057 hectares.
Wales . . .	7,397 „ or 1,915,823 „
Scotland (exclusive of islands) . .	26,014 „ or 6,737,626 „

SUPERFICIAL ASPECT.—The surface of the British Islands is highly diversified, and their scenic beauties of the most various description. Their higher elevations are for the most part in proximity to the sea—nowhere very far removed from its shores. The interior exhibits generally an undulating surface, almost everywhere varied by a pleasing alternation of hill and dale.

In the case of Great Britain, the higher elevations lie throughout upon the western side of the island, and culminate towards its northern extremity. The most extensive tracts of level ground are immediately adjacent to the east coast. In Ireland the high grounds are found in the vicinity of the coast, and the interior is generally level.

1. **GREAT BRITAIN.**—The island of Great Britain is bounded on the north by the Atlantic Ocean; on the east by the North Sea; on the south by the English Channel; on the west by the Atlantic Ocean, the North Channel, the Irish Sea, St. George's Channel, and the Bristol Channel. All of these seas are but portions of the Atlantic.

The Irish Sea, together with the North Channel and St. George's Channel, by which it is connected with the open ocean, divides Great Britain and Ireland. In its broadest part the Irish Sea is nearly 130 miles across. The narrowest portion of the North Channel is only thirteen miles wide: St. George's Channel is fifty-three miles across.

SCOTLAND is the northern portion of Great Britain; Wales

comprehends a part of its western side. The remaining and larger portion is England.

The highest mountain in Britain (and the highest point in the British Islands) is Ben Nevis, the summit of which is 4,406 feet above the sea. Ben Nevis is within the county of Inverness, and forms part of a prolonged chain of heights which stretch across Scotland, in the direction of east and west, not far distant from the line of the 57th parallel. This chain of high ground is known as the Grampian Mountains.

The Grampian Mountains, with the adjacent tracts of high ground which stretch far out on either hand from the principal line of elevation, cover the larger part of the region called the *Highlands*, which includes nearly all the north and west of Scotland. The east and the south of that country, though for the most part hilly, is distinguished as the *Lowlands*. Between the Highlands and the Lowlands there is a well-marked division—the valley known as Strathmore, or the great strath, which crosses the country in the direction of north-east and south-west, and will be described in a future page.

Mountains and high tracts of moorland cover by far the larger part of Scotland, especially within the highland region.

ENGLAND.—The boundary between England and Scotland is marked by the Solway Firth, the Cheviot Hills, and the lower course of the river Tweed.

The Cheviot Hills are a part of the high grounds belonging to southern Scotland. Their highest summit is 2,668 feet above the sea. From the Cheviot Hills, southward to the extreme limit of Britain, tracts of high ground occur at intervals—not continuously, but with intervening breaks.

The highest mountain in England is Scaw Fell, which reaches 3,229 feet above the sea. Scaw Fell is in Cumberland, and forms nearly the central point of a detached group, which covers great part of that county, with portions of the adjoining counties of Westmoreland and Lancashire.

The high grounds of England are of less proportionate

extent than those of North Britain. Scotland is altogether a mountainous country. Few parts of England claim the appellation of mountainous, though considerable portions may be termed hilly; but the larger part is merely undulating in surface.

WALES is principally mountainous. The high grounds cover nearly nine-tenths of its surface. The Welsh mountains reach their highest elevation in the north-west, where the summit of Snowdon, in Caernarvonshire, is 3,590 feet above the sea. The higher elevations lie in general near the western coast, whence the country declines gradually towards the valleys of the Severn, Wye, and other rivers, on the east. The most extensive level grounds are in the south, along the shore of the Bristol Channel. The Isle of Anglesea, which forms part of Wales, is chiefly level.

2. IRELAND is fronted by the open ocean upon three sides — the north, west, and south; by the Irish Sea, with the North Channel and St. George's Channel, upon the east. Its highest elevations occur in the mountains of Kerry, in the south-west corner of the island, where the summit of Carrantual reaches 3,404 feet. The Mountains of Wicklow, in the south-east, are nearly as elevated.

The mountains of Ireland form detached groups, which front different portions of the surrounding seas, and fill up the numerous peninsular formations of its northern and western shores.

Every part of the British Islands possesses numerous running streams. No country on the globe, indeed, can lay claim to a better system of inland waters. Nearly all the principal rivers of Britain are navigable by vessels of considerable tonnage for some distance inland, and allow of boat-navigation through the chief part of their courses. The estuaries which they form at their outlets to the sea constitute harbours of first-rate importance. In such regards, the Thames, Mersey, Clyde, and Shannon, are not

inferior to any rivers in the world. These, together with the Severn, Humber, and Forth, take the first rank in order of importance among the rivers of Britain. The Severn and Mersey among the rivers of England, the Clyde among Scotch rivers, and the Shannon among those of Ireland, discharge into the seas on the western side of the islands; but the greater number both of the British and Irish streams flow towards the eastern coasts — a necessary result of the accumulation of high ground on the western shores.

The seas which surround the British Islands are deeper on the western side than off the eastern coasts. The German Ocean is shallow, compared either with the Irish Sea or the Channel. The mean depth of the German Ocean is not generally more than from 100 to 120 feet at a distance of about 40 miles from the shore: off the mouth of the Thames, it is about 120 feet; off the Wash, only 70 feet; off Flamborough Head, 120 feet; and off the coast of Northumberland, from 200 to 250 feet. At a greater distance from land, the mean depth of its bed is only about 145 feet in the parallel of Flamborough Head, and 100 feet in the latitude of the mouth of the Tyne, but it deepens considerably farther northward. In general, however, the central parts of the German Ocean are less deep than those nearer the land (excepting close in shore), owing to extensive banks, which occupy a large portion of its bed. The largest of these is the *Dogger Bank*, which stretches through its central part for more than 300 miles from north to south. Further to the south, the *Goodwin Sands*, off the coast of Kent, extending about 10 miles in length by 3 or 4 miles in breadth, form a dangerous impediment to navigation. The mean depth of water over the Goodwin Sands does not exceed from 6 to 10 feet. The deeper channel between these sands and the coast of Kent forms a roadstead called *the Downs*. An extensive bank which lies off the south coast of Essex forms the *Maplin Sands*. Numerous other sandbanks occur within the estuary of the Thames, and render the navigation near the mouth of that river exceedingly intricate and dangerous.

The English Channel gradually increases in mean depth from about 150 feet in its eastern, to between 250 and 300 feet in its western, portion: the deepest part of the sea between Beachy Head and the opposite coast of France is 210 feet; off the south coast of the Isle of Wight, 276 feet; and off the Land's End, at the entrance of the Channel, 380 feet.

The bed of the Irish Sea is deep throughout, and, excepting at its north-eastern extremity, is not generally less than from 200 to 400 feet in mean depth. Midway between the coast of Cumberland and the Isle of Man, the depth is about 100 feet; between the Isles of Man and Anglesey, 200 feet; and between Anglesey and the coast of Ireland, 400 feet. The central part of St. George's Channel has a mean depth of 300 feet; the sea near the western extremity of the Bristol Channel has an average depth of about 150 feet, which increases southward along the shores of Cornwall to 250 feet.

Thus, for a considerable distance immediately around the coast, the British seas have only a moderate depth, the soundings falling in general very considerably short of 100 fathoms (600 feet). But the whole group of the British Islands is based upon a submarine plateau. The line of 100 fathoms' depth lies about 50 miles to the west of the Scotch and Irish coasts. Thence the depth rapidly passes from 100 to upwards of 200 fathoms. It continues gradually to increase, until, at a distance of about 180 miles to the west of Ireland (in long. 15° W.), the sounding-line suddenly sinks from 550 to 1,750 fathoms—showing an immediate depression of 1,200 fathoms, a wall or precipice in the bed of the ocean. It is here that the deep basin of the Atlantic really begins.

The rise of tide is in general greater on the west than on the south or east coasts of Britain, and, owing to the fact that the estuaries on the west side of the island have their openings directed *towards* the advance of the great tidal wave of the Atlantic, the height which the tide attains in them is very considerable. In the Solway Firth, in More-

cambe Bay, and at the mouth of the Severn, the tide advances with great rapidity and impetuosity; and as its channel is narrowed by the nearer approach of the opposite shores, it rises to an astonishing height, amounting at the mouth of the Severn (near the junction of the Wye) to 45 feet. A similar phenomenon, though to a less conspicuous extent, occurs in the Wash, on the east coast. The general rise of the tides around the shores of England is, however, much less; at the mouth of the Thames, the ordinary rise is 16 feet; at Harwich, 12 feet; at Yarmouth, from 7 to 8 feet; at the entrance of the Wash, 23 feet; at the mouth of the Humber, 19 feet; and at the mouth of the Tyne, 15 feet. In the English Channel, off Brighton, the rise of tide is 18 feet; at Portsmouth, 16 feet; and at the mouth of Plymouth Sound, 16 feet. In the Irish Sea, the rise at the entrance of the Solway Firth is 21 feet; at the mouth of the Mersey, 26 feet; at Holyhead, 16 feet; off the entrance of Milford Haven, 22 feet; in Swansea Bay, 30 feet; at Cardiff, 38 feet; at the mouth of the Bristol Avon, 40 feet; in Barnstaple Bay, from 22 to 25 feet; and off the south-west coast of Cornwall, 19 feet. At the entrance of Dublin Bay, on the west side of the same sea, it is only from 12 to 13 feet; and further south, on the coast of Wicklow, much less.

CLIMATE.—The British Islands enjoy a temperate, and, for the most part, an eminently healthy climate. Their situation, in the middle latitudes of the temperate zone, near the western side of a continent, and surrounded by the waters of a vast ocean, secures to them advantages in this respect which are denied to other regions. Their freedom from great extremes of either cold or heat, their possession of an abundant (and yet not excessive) supply of moisture, are the most noteworthy of such conditions.

It is a well-known truth of Physical Geography, that the western side of either continent is warmer than its eastern side, and is also of more equable temperature. The British

Islands enjoy to the fullest extent such advantages, as well as those that belong to an insular position in general. The intense cold of a Russian winter, and the correspondent heat of a Russian summer, are alike unknown. Edinburgh is in nearly the same latitude as Moscow, but the difference of climate between the Scotch capital and the ancient metropolis of Russia is nearly as great as between the polar circle and the tropic. Between the mean heat of summer and winter, there is at Edinburgh a difference of less than nineteen degrees. At Moscow, the corresponding difference is above forty-eight degrees. Again, between the northern and southern extremities of Britain there is much less difference, especially in their respective winter temperatures, than is the case within a correspondent range of latitude on the continent. The winter temperature of the Isle of Wight does not differ perceptibly from that of the Shetland Islands. The connection of such facts as these with health is sufficiently obvious. Sudden and violent alternations of temperature are everywhere prejudicial to the human constitution: a comparatively equable temperature of air is attended by the most favourable results. The southern and western shores of the British Islands possess such advantages in higher measure than the eastern coasts. The southern coast-line of England, from the Isle of Wight to the Land's End, the coasts of South Wales, and the bay-indented shores of Kerry, offer the most striking examples. Upon the south side of the Isle of Wight, and in the extreme south-west of the Cornish peninsula, the severity of winter is unknown, and the myrtle thrives in the open air, throughout the year, as it also does upon the coast of Kerry, in the south-western corner of Ireland.

The lowest average of temperature is found upon the east coasts of England and southern Scotland, and principally within the tract which extends from the Naze, in Essex, to the Firth of Forth. This tract of country, with the adjacent districts inland, is the coldest portion of Britain.

The following Table gives the mean annual and seasonal

temperature experienced at several places, in various portions of the British Islands:—

	Mean temp. of winter.	Mean temp. of spring.	Mean temp. of summer.	Mean temp. of autumn.	Mean temp. of year.	Difference of summer and winter.
Penzance .	44·23	49·31	60·91	52·67	51·78	16·68
Falmouth .	42·31	48·47	58·45	51·83	50·27	16·14
Truro . . .	41·63	51·37	58·37	52·10	50·87	16·74
Plymouth .	44·88	49·68	60·87	52·91	52·08	15·99
Exeter . . .	36·33	45·33	57·67	47·67	46·75	21·34
Gosport . .	40·97	50·14	62·74	53·44	51·82	21·77
Chichester .	38·85	47·76	60·78	50·64	49·51	21·93
Bristol . . .	40·33	50·33	64·33	51·67	51·67	24·
Swansea . .	45·50	49·67	63·67	56·	53·71	18·17
London . . .	39·50	49·06	62·93	51·83	50·83	23·43
Oxford . . .	37·	47·17	60·37	50·03	48·64	23·37
Cheltenham .	40·60	50·28	64·32	56·96	51·54	23·72
Bedford . .	40·51	51·10	62·68	52·25	51·64	22·17
Malvern . .	40·	41·53	60·	49·43	47·74	20·
Derby . . .	36·33	44·67	54·33	44·33	44·92	18·
Boston . . .	37·74	48·24	61·98	48·54	49·12	24·24
Dublin . . .	40·6	48·5	61·	50·	50·	20·4
Liverpool .	41·30	49·26	61·14	51·52	50·80	19·84
Manchester .	38·33	47·37	59·80	49·73	48·81	21·47
Bolton . . .	38·80	47·93	60·50	49·37	49·15	21·7
York	36·28	49·37	62·37	48·63	49·16	26·09
Lancaster .	37·08	44·21	56·83	47·32	46·36	19·75
Kendal . . .	37·04	45·83	57·79	47·52	47·05	20·75
Whitehaven .	39·9	47·93	59·64	49·77	49·09	19·74
Keswick . .	37·53	45·51	58·6	47·48	47·28	21·07
Carlisle . .	37·25	45·49	57·39	47·76	46·97	20·14
Edinburgh .	38·45	45·	57·17	47·89	47·13	18·72
Dunfermline	36·66	43·03	55·19	46·01	45·22	18·53
Dundee . . .	41·39	49·89	63·47	51·03	51·94	22·08

The frequent mists and watery vapours which obscure the skies of Britain, and prevailing moisture of its atmosphere, are a necessary result of geographical position. Every wind, from whatever direction, brings to the British coasts the vapours of a surrounding ocean. The prevailing winds are from the westward; these winds bring with them the mild and equable temperature derived from the vast expanse of ocean over which they have passed. Winds blowing from the south-west, especially, are warm, and are frequently

accompanied by moisture. North, north-east, and east winds are cold, and generally dry: those between west and north are of mixed character.

On a comparison of the number of days in the year upon which westerly and easterly winds have been found to blow, during a long period of observation, it appears that westerly winds exceed those from the eastern quarter of the heavens in the proportion of 225 to 140; and that the northerly exceed the southerly as 192 to 173. South-west winds prevail mostly from June to December (inclusive); north-east winds are of most frequent occurrence from January to May (inclusive). The lengthened prevalence of cold winds from the north-eastward, during the spring and early summer, constitutes the prime defect in the climate of Britain, and frequently operates as a check to the operations of agriculture.

More rain falls on the west than on the east side of Britain—a necessary result of the more immediate exposure of the western coasts to the vapours drawn from the Atlantic. This is strikingly shown in the subjoined Table, the places in which are arranged according as they are respectively situated on the eastern or the western side of the main line of watershed which intersects the island from north to south, dividing the sources of its eastern and western waters. The mean annual quantity of rain at each place is stated in inches:—

WEST SIDE.					
Coniston	.	85 inches	Carlisle	.	30 inches.
Keswick	.	70 "	Bristol	.	30 "
Kendal	.	56 "	EAST SIDE.		
Whitehaven	.	52 "	Sheffield	.	33 "
Bolton	.	47 "	Dover	.	30 "
Penzance	.	41 "	Hastings	.	28 "
Plymouth	.	40 "	Bedford	.	27 "
Falmouth	.	40 "	Derby	.	27 "
Exeter	.	36 "	Norwich	.	25 "
Manchester	.	36 "	Shields	.	25 "
Liverpool	.	35 "	York	.	24 "
Swansea	.	35 "	Scarborough	.	23 "
Salisbury	.	35 "	London	.	21 "
Cheltenham	.	32 "	Cambridge	.	20 "

Ireland has a moister atmosphere than Britain. The greater humidity of the air constitutes, in fact, the chief difference between the two islands, in respect of climate. The number of days in the year upon which rain occurs is said to be greater in Ireland than in any other country of Europe, amounting to 208. About 31 inches of rain fall annually at Dublin, and 40 inches at Cork. Westerly winds prevail during three-fourths of the year. The almost constant humidity of the atmosphere accounts for the verdure which is a well-known characteristic of Ireland. The trees remain longer in leaf than in the neighbouring island. These conditions belong in more especial measure to its western and south-western coasts.

The mineral riches of the British Islands are, in proportion to their extent, superior to those of any other country on the globe. The precious metals, gold and silver, are indeed wanting, or only occur in small and unimportant quantity; but the absence of these is more than compensated by the great abundance of nearly all the more useful productions of the mineral kingdom, including iron, tin, copper, lead, zinc, coal, and salt; besides a variety of others of less importance, as antimony, manganese, plumbago, alum, fuller's-earth, arsenic, &c. The southern half of Scotland, and the northern, central, and western parts of England (including Wales), are the chief localities of mining industry.

Ireland is less rich than Great Britain in mineral produce, but iron ore is abundant in many parts of the island, and there are mines of copper and lead.

The vegetable and animal productions of the British Islands are those which belong to the north temperate zone in general, and some particulars relative to their distribution are stated in subsequent pages. Wheat is capable of successful cultivation nearly as far north as the 58th parallel, beyond which only the hardier grains, as barley, rye, and oats, come to perfection. In the north of England, the

cultivation of wheat extends to the height of 1,000 feet above the level of the sea; oats grow at nearly double that elevation. In the north of Scotland, wheat does not succeed at a greater height than 400 feet, nor oats above 950 feet; but the hardier grain called *bigg* (a kind of barley) often ripens at 100 feet greater elevation.

Among the plants of larger size most widely spread over both England and Scotland, and forming some of the principal components of British vegetation, are the common oak, the elm, the birch, the alder, the hazel-nut, the aspen, the dwarf willow, the common yew, the blackthorn, the blackberry, the common ash, the holly, and the common dog-rose. The birch, alder, poplar, mountain-ash, and Scotch fir, are the principal native woods in Scotland.

The maple, the beech, the Spanish chesnut, the elm, and the common mistletoe, occur chiefly in the southern part of England, and diminish in frequency northward. Every plant which is universally spread over the British Islands is also found within the middle latitudes of Western Europe.

The zoology of the British Islands does not now include any of the larger members of the animal kingdom belonging to the carnivorous order of mammalia; some which were formerly common, as the wolf, the bear, and the wild boar, have been gradually exterminated by the increase of population and the progressive advance of the arts of civilized life. The fox, preserved for the purposes of the chase, is now comparatively scarce. Both the badger and the otter were formerly much more common than at present. Two or three varieties of the weasel and marten are generally distributed, and the wild cat is still found in the wooded districts of both Great Britain and Ireland, but is most frequent in the north part of Britain.

Of the *rodentia*, or gnawing quadrupeds, the common squirrel is generally diffused in Great Britain, but has only lately been introduced into Ireland: varieties of the hare and rabbit tribe are dispersed throughout the islands. The Alpine hare, the fur of which becomes in winter

snowy white, is yet found in the higher parts of the Grampian region. The common dormouse is confined to Great Britain, but various species of mice and rats are universally distributed over the whole kingdom. The beaver, once common throughout the islands, has long become extinct; it continued, however, to inhabit one of the Welsh rivers,* down to the close of the 12th century. Of the *insectivora*, or insect-eating animals, the common hedgehog and the mole are generally dispersed over the fields and heaths of England, but the latter does not extend either into Ireland or the northern parts of Scotland. Ten species of the bat tribe are enumerated as occurring in different parts of the kingdom.

Among ruminating animals, besides the ordinary domesticated species, are the red deer or stag, still found within the high region of Exmoor, in the counties of Somerset and the Devon, as well as in North Britain; the fallow deer; the roebuck (now rare in England, but abundant in some parts of Scotland); the common goat, yet found wild among the mountains of Wales; and the wild ox, the breed of which is preserved in the parks of some of our nobility. The red deer is found in Ireland, but the roebuck does not occur in that island. The remains of a large species of deer, commonly known as the Irish elk, which is now totally extinct, have been found in England and the Isle of Man, as well as in Ireland.

The domesticated quadrupeds, as the ox, sheep, horse, dog, and others, are numerous in every part of the British Islands.

Birds are very numerously distributed, and of the total number of species native to Europe, considerably more than half are found within our own shores. Most of these are birds of small size, as the nightingale, blackbird, linnet, thrush, goldfinch, skylark, and others belonging to the

* The Teify (Giraldus Cambrensis: Itinerary of Archbishop Baldwin, 1188). It was also still found, according to the same authority, in one of the Scotch rivers,—we are not told which.

family of warblers; besides the sparrow, wren, and many others of general distribution. Some of the birds most numerous in Britain are migratory in their habits, as the swallow, cuckoo, martin, and others, which only visit these islands on the approach of the summer: others, again, as the redwing, fieldfare, woodcock, snipe, and some aquatic birds, are winter visitors, migrating hither from more northern latitudes. Birds of the gallinaceous order—including the domestic poultry, besides partridges, grouse, and pheasants, though numerous as individuals, are less so as species. The ptarmigan only occurs here in the highest and wildest parts of Scotland, and the islands of the Hebrides and Orkney groups; the red grouse is peculiar to the British Islands. Among birds of prey, the falcon and hawk tribes occur, but the former are becoming scarce; the golden eagle, the largest bird found in the British Islands, frequents the higher mountain regions both of Great Britain and Ireland, but is chiefly found in the north of Scotland. Another species of eagle, the white-tailed or sea-eagle, is common in the Hebrides and the Orkney and Shetland Islands.

Of the total number of reptiles known to the naturalist, the British Islands possess only thirteen, but five of which are natives of Ireland. Frogs and toads are pretty generally diffused. The common viper or adder, and also the harmless ringed snake, are common in all parts of Great Britain, though the latter of these is less numerous in Scotland than the former: no snakes occur in Ireland.

The seas which lie around the shores of Britain are exceedingly abundant in the kinds of fish most generally useful as the food of man, as the cod, turbot, mackerel, herring, pilchard and many others. Most of these frequent shallow water, and the shores and banks of the North Sea teem with the greatest abundance of them. The Dogger Bank, midway between the coast of England and Holland, is (next to the banks of Newfoundland) the seat of the most extensive cod-fishery; and the cod is also taken in considerable

numbers all round the shores of Britain, particularly on the north and west coasts of Scotland. The herring is extensively diffused all round our shores; the mackerel is chiefly abundant on the southern coasts of England; and the pilchard in the western extremity of the English Channel, near the counties of Devon and Cornwall. All of these fish are gregarious, and alternately approach the shores in vast swarms as the season for spawning draws near, and afterwards retire during winter into deeper water. The crab, lobster, oyster, shrimp, and prawn, are also abundant round the shores of Britain and on the south side of the English Channel, and, small as some of these are, their fishery is of considerable commercial importance.

A vast number of insects occur in every part of the British Islands, many of which are familiarly known by our ordinary and daily observation. These, however, though interesting to the naturalist, and designed to fulfill important functions in the economy of the natural world, require no special notice in so general a survey as the present.

CHAPTER II.

PHYSICAL GEOGRAPHY OF ENGLAND AND WALES.

AREA, COAST-LINE, &c.—The southward division of Britain includes ENGLAND AND WALES. These must be treated, for the purpose of geographical description, as one country. Wales, however, as we shall see, has some important characteristics peculiar to itself, and, though united to the English Crown during upwards of five centuries, it was long the seat of a distinct government, as it still is of a population different in many respects from that of the larger country which it adjoins.

The figure of England and Wales is triangular. The western is the longest of its three sides, and is the most irregular in outline. The eastern side is next in point of length. The most northerly point is the town of Berwick-upon-Tweed; the most southwardly is the promontory of the Lizard, in Cornwall. A straight line drawn between these points measures 425 miles (680 kilometres). The most easterly extreme is Lowestoft Ness, in Suffolk; the most westerly is the Land's End, in Cornwall. A straight line drawn from Lowestoft Ness to the Land's End measures 371 miles (593 kilometres).

A triangular figure formed by three straight lines, drawn to connect the town of Berwick-upon-Tweed, the South Foreland (Kent), and the Land's End, gives a general representation of the shape of England and Wales, allowance being made for the fact that each of such lines cuts off large projecting portions of land.

The joint area of England and Wales is 58,320 English square miles (15,104,880 hectares), of which England

comprehends 50,923 (13,189,057 hectares), and Wales 7,397 (1,915,823 hectares). Wales is, therefore, little more than one-seventh part the size of England.

The coast-line of England and Wales is exceedingly varied, though less minutely so than that of the more northwardly portion of Britain. Its length, measured along the principal estuaries and salt-water inlets of every kind, exceeds 1,800 miles. This is in the ratio of one mile of coast-line for every thirty-two miles of surface—a proportion which could of course only occur in the case of an insular region. No part of England is, indeed, more than a hundred and twenty miles distant from the sea in a direct line—few parts so far removed as a hundred miles.

The principal indentations of the English coast are :—

On the east side (from north to south).

- | | |
|-----------------------|-------------------------|
| 1. Mouth of the Tees. | 4. The Humber. |
| 2. Filey Bay. | 5. The Wash. |
| 3. Bridlington Bay. | 6. Mouth of the Thames. |

On the south coast (from east to west).

- | | |
|------------------------|--------------------|
| 1. Langston Harbour. | 5. Tor Bay. |
| 2. Portsmouth Harbour. | 6. Plymouth Sound. |
| 3. Southampton Water. | 7. Falmouth Bay. |
| 4. Weymouth Bay. | 8. Mount's Bay. |

On the west coast (from south to north).

- | | |
|---------------------|--------------------------|
| 1. St. Ives Bay. | 9. Mouth of the Dee. |
| 2. Barnstaple Bay. | 10. Mouth of the Mersey. |
| 3. Bristol Channel. | 11. Mouth of the Ribble. |
| 4. Swansea Bay. | 12. Mouth of the Lune. |
| 5. Caermarthen Bay. | 13. Morecambe Bay. |
| 6. Milford Haven. | 14. Mouth of the Duddon. |
| 7. St. Bride's Bay. | 15. Solway Firth. |
| 8. Cardigan Bay. | |

The most extensive of these are the Humber, the Wash, and the estuary of the Thames, upon the east coast; the Bristol Channel, Cardigan Bay, Morecambe Bay, and the Solway Firth, on the west side of the island.

COASTS.—The western shores of Britain are generally bolder and more elevated than the eastern, and in the

portion of the island now under description the most continuous lines of high and rocky coast occur on the shores of South Wales and Cornwall. About three-eighths of the whole length of the western coast consist of cliffs, the remainder either of low sandy, or marshy, land.

Rather more than half the south coast of England is lined by cliffs, which are generally higher in the western than in the eastern part of the channel. The promontory of Portland Bill is the termination of a narrow strip of land called the Isle of Portland, though really a peninsula, and connected with the mainland by the Chesil Bank — a ridge of shingle upwards of ten miles in length, composed of loose rounded stones.

On the east coast, the cliffs which occur to the north of Flamborough Head are bold and elevated; those to the south of that point form in general low and nearly level walls, composed either of clay or chalk. Immediately to the south of the Humber, round the west and south of the Wash, and also on great part of the coast of Essex, the shores are low and marshy.

CAVES.—Amongst the numerous headlands which belong to the coast of England and Wales, the following are the most important:—

On the east coast (from north to south).

	Height. feet		Height.
Filey Point (Yorkshire)		The Naze (Essex)	. 100 feet
Flamborough Head		Foul Ness (Essex)	. "
(Yorkshire)	. 214 "	Shoebury Ness (Essex)	"
Spurn Head (Yorkshire)	"	North Foreland (Kent)	184. "
Lowestoft Ness (Suffolk)	119 "		

On the south coast (from east to west).

South Foreland (Kent)	370 feet	St. Albans Head	
Dunge Ness (Kent)	. 92 "	(Dorset)	. 344 feet
Beachy Head (Sussex)	. 564 "	Portland Bill (Dorset)	30 "
Selsey Bill (Sussex)	"	Berry Head (Devon)	"
St. Catherine's Point		Start Point (Devon)	"
(Isle of Wight)	. 178 "	Bolt Head (Devon)	. 430 "
Durleston Head (Dorset)	"	The Lizard (Cornwall)	224 "

On the west coast (from south to north).

	Height.		Height
Land's End (Cornwall) .	100 feet	Braich-y-Pwll (Caernarvon)	feet
Hartland Point (Devon) .	350 „	Lincoln Head (Anglesey) .	128 „
Mumble Head (Glamorgan)	114 „	Great Orme's Head (Caernarvon)	673 „
Worms Head (Glamorgan)	164 „	Point of Aire (Flint)	„
St. Goven's Head (Glamorgan)	„	Formby Point (Lancashire)	„
St. David's Head (Glamorgan)	„	St. Bees Head (Cumberland)	333 „

SURFACE OF LAND.—The high grounds of England and Wales lie principally on the west side of the island. No tracts entitled to the epithet of mountainous, and few heights that exceed a thousand feet above the level of the sea, are found within that part of the island which lies south of the parallel of 53° and east of the meridian of 3° W.

The most elevated portions of England and Wales constitute four distinct regions, three of them situated in close proximity to the western coast, and the fourth lying only a moderate distance inland. These are:—

1. *The Pennine range*, which stretches from the border of Scotland southward to the valley of the Trent.

2. *The Cumbrian Mountains*, which form a well-defined group, situated within the counties of Cumberland and Westmoreland, with the detached portion of Lancashire known as Furness.

3. *The Welsh Mountains*, which fill the greater part of the principality of Wales.

4. *The high grounds of Devon and Cornwall*, which stretch through the extreme south-western peninsula of England.

The second and third of these regions exhibit a truly mountainous aspect, and present bolder features than are elsewhere found in our island, to the south of the Tweed.

1. The name of Pennine has been applied, by general consent, to the extensive range of high ground stretching south from the Cheviot Hills to the district of the Peak, in Derbyshire, through a length of

170 miles, and forming a kind of back-bone to a considerable portion of the island. The Pennine range does not form a continuous mountain-chain, but rather a succession of high moorlands, within portions of which are rounded masses of hill that rise above the general level of the whole. The breadth of the moorland region is considerable, the high grounds which line the Yorkshire and Lancashire border being in some parts as much as forty miles across in the direction of east and west. In their northwardly portion, however, the hills exhibit more the character of a dividing ridge, and the high ground is of narrower limits.

The Cheviot Hills are a part of the high grounds which spread over southern Scotland. Their highest elevation, Cheviot, a round-topped mountain on the border of Northumberland and Roxburghshire, is 2,668 feet in altitude. The Pennine range has its commencement from the western extremity of the Cheviot Hills, and stretches thence to the southward. A partial depression occurs about the line of the 55th parallel, but, with this exception, the high grounds nowhere exhibit any material depression until they sink towards the valley of the Trent.

Among the most conspicuous elevations which belong to the Pennine range (from north to south) are the following:—

Kilhope Law (Northumberland)	2,196 feet	Rye Loaf (Yorkshire)	1,796 feet
Collier Law (Durham)	1,685 "	Great Whernside (Yorkshire)	2,310 "
Cross Fell (Cumberland)	2,927 "	Pendle Hill (Lancashire)	1,816 "
Mickle Fell (Yorkshire)	2,580 "	Boulsworth Hill (Lancashire)	1,689 "
Nine Standards (Westmoreland)	2,136 "	Whittle Hill (Lancashire)	1,529 "
Water Crag (Yorkshire)	2,187 "	Rivington Pike (Lancashire)	1,545 "
The Calf (Westmoreland)	2,188 "	Blackstone Edge (Yorkshire and Lancashire)	1,923 "
Shunnor Fell (Yorkshire)	2,329 "	Holme Moss (Yorkshire and Cheshire)	1,859 "
Wild Boar Fell (Westmoreland)	2,327 "	Kinderscout, Peak (Derbyshire)	1,981 "
Cam Fell (Yorkshire)	2,245 "	Lord's Seat, Peak (Derbyshire)	1,816 "
Whernside (Yorkshire)	2,384 "	Axe-edge Hill, Peak (Derbyshire)	1,809 "
Ingleborough (Yorkshire)	2,373 "	Weaver Hill (Staffordshire)	1,154 "
Pen-y-gent (Yorkshire)	2,270 "		
Fountain's Fell (Yorkshire)	2,190 "		

Cross Fell, the highest point of the range, is near the border of

Cumberland and Durham, and includes the sources of the South Tyne and the Tees, both of them flowing into the German Ocean. Wharfedale, Ingleborough, Pen-y-gent, and Pendle, adjoin the valley of the Ribbles, which flows towards the western coast. The Pennine range, indeed, includes throughout the watershed between the eastern and western seas, though the dividing line does not always coincide with that of the highest elevations.

The Peak (in Derbyshire) is not an isolated hill, but a region of rounded hills and high moorlands, intersected by deep valleys. Its highest point is Kinder Scout. From the Peak southwards, the high grounds sink towards the valley of the Trent, forming several long valleys or dales, which are watered by the tributaries of that river.

Geologically, the Pennine range is composed entirely of rocks belonging to the carboniferous series. Mountain limestone, the lowest of these in order of succession, extends continuously from the border of Scotland to the valleys of the Aire and Ribbles (including the whole of the latter, as far down as the neighbourhood of Preston), and reappears in the Peak district of Derbyshire. The intervening tract is composed of millstone-grit, which throughout borders the higher limestone rocks on their eastern side. Coal appears in immediate contact with the millstone-grit: — in the north, to the eastward of the high grounds; in the south, upon either side of them.

Three considerable coal-fields, with a fourth of much smaller area, adjoin the Pennine region, and include some of its lower elevations. These are, the Northumberland and Durham, the Yorkshire and Derbyshire, the Lancashire, and the North Staffordshire (or Potteries) coal-fields.

Many portions of the Pennine range exhibit cavernous formations, which are a general characteristic of the mountain-limestone rocks. The famous "Devil's Cave," in the Peak, offers a well-known example. The Ingleborough caves are another. The streams in several instances disappear for a time beneath the surface. Thus, Malham Tarn, at the head of the Aire valley, discharges itself, not by a surface channel, but by subterranean passages. The river Nidd is swallowed up near Lofthouse. Streams which gather on the moorland fells sink in many places into smaller holes of limestone below, or wind through subterranean caverns.*

2. The Cumbrian Mountains form a distinct group, connected, however, with the Pennine chain by a transverse range of high

* The Rivers, Mountains, and Sea-coast of Yorkshire. By John Phillips, F.R.S. (London, 1855.)

ground, which divides the upper valleys of the Eden and the Lune. They fill the chief part of the peninsular region which terminates to the west in the high sandstone promontory of St. Bees Head.

The principal elevations belonging to the Cumbrian group are:—

Scaw Fell (Cumberland)	3,229 feet	Red Pike (Cumberland)	2,750 feet
Helvellyn (Cumberland and Westmoreland)	3,055 "	High Street (Westmoreland)	2,700 "
Skiddaw (Cumberland)	3,022 "	Grisedale Pike (Cumberland)	2,680 "
Fairfield (Westmoreland)	2,950 "	Coniston Old Man (Lancashire)	2,577 "
Great Gavel (Cumberland)	2,925 "	Hill Bell (Westmoreland)	2,500 "
Bow Fell (Cumberland and Westmoreland)	2,914 "	Langdale Pikes (Westmoreland)	2,400 "
Rydal Head (Westmoreland)	2,910 "	High Pike (Cumberland)	2,101 "
Pillar (Cumberland)	2,893 "	Causey Pike (Cumberland)	2,030 "
Saddleback (Cumberland)	2,787 "	Black Combe (Cumberland)	1,919 "
Grassmere (Cumberland)	2,756 "	Wansfell (Westmoreland)	1,590 "

The higher portions of the Cumbrian group exhibit a more rugged and truly mountainous aspect than any other part of England, and they surpass any other elevations in altitude. Scaw Fell Pikes, the most central point of the system, is the highest mountain in England. The distinguishing feature of this region is found in its numerous lakes, which impart to its scenery a charm that is in general wanting elsewhere in South Britain. The valleys of this region, long and narrow in shape, radiate from its central point like the spokes of a wheel, and nearly every one of them is the bed of a lake.

The geological formation of the Cumbrian group exhibits for the most part rocks of slaty texture. These comprehend all the central and higher portion of this tract of country—that is, all the mountain region, properly so called. These slaty rocks belong to the Silurian period of geologists. They are surrounded on every side by sedimentary rocks of later origin, belonging principally to the carboniferous and new red sandstone epochs.* Upon the north-west

* "The lakes of the north of England (says Professor Phillips), like those of Scotland, Wales, and some districts of Ireland, are situated

there is a coal-field of moderate extent, which abuts upon the shore of the Irish Sea, and the workable strata of which dip beneath its waters. Iron ore of the most valuable kind abounds within the western portion of the mountain area. Veins of copper, lead, and other minerals, occur within the same region. *The new red sandstone of the coast, from Whitehaven southwards to St. Bees Head, is extensively quarried as building stone. A valuable mine of plumbago, or black lead (properly *graphite*), is worked in the high valley of Borrowdale, in the heart of the mountain region.

3. The Welsh Mountains consist neither of a single mountain range nor a succession of connected chains. They form rather an extensive mountain region, in some places spreading out into high plateaus intersected by deep valleys, and in others rising into peaks of considerable elevation, which constitute the summits of broad masses of highland. The highest elevations occur in general at a short distance from the west coast, on which side the mountains have a more rapid slope than on their eastern border. In South Wales, however, the most considerable elevations are in ranges which run in an east and west direction, and lie at some distance inland.

The highest of the Welsh mountains is situated near the north-western extremity of the system, where the extensive mass of Snowdon rises into three summits of nearly equal height, the most elevated of them 3,590 feet above the sea,—a greater elevation than is attained in any part of Britain to the southward of the plain between the Firths of Forth and Clyde. Both to the north and south of Snowdon are many summits which are from 2,500 to above 3,000 feet in height.

About twenty-seven miles to the S. by E. of Snowdon is Cader Idris, 2,959 feet; to the eastward of a line joining these two points is an extensive area of country, comprehending the upper part of the valley of the river Dee, which is probably not less than 600 feet above the level of the sea, even in its lower portions, and in which numerous high summits occur. The south-eastern boundary of this region is formed by the Berwyn range, which bounds the valley of the Dee on the south, and in which the highest summits vary from 1,000 to 2,000 feet in height, and many rise above 2,000 feet. The

among the most ancient of the stratified rocks, including slaty formations with organic remains, and others still older, which have not as yet yielded any fossils. These strata form, in a general sense, one broad rugged dome, surrounded on the flanks by later deposits of old red sandstone, mountain limestone, millstone-grit, coal, and new red sandstone.”—*Geology of the English Lakes.*

country lying between the western extremity of the Berwyn hills and the high mass of Snowdon, embracing the chief part of Merionethshire, presents the most varied surface in Wales. The rivers which descend from its western slope, falling into Cardigan Bay, run through narrow valleys, and form in their course a continual succession of rapids and cataracts. To the southward of Cader Idris a similar country extends along the shores of Cardigan Bay as far as the river Ystwith.

In the country which lies around the eastern and southern sides of the high tract above described, the mountains are of less elevation, though they still cover the greater part of the surface; but the valleys here expand into greater breadth, and the Vale of Clwyd, watered by the river of that name, is a beautiful and fertile district, from five to seven miles across. The hills which bound the east side of this valley descend in gentle swellings and undulations into the plain of Cheshire. The peninsula of Caernarvon has a range of hills — an offset from the Snowdon Mountains — running through its centre, but is low towards the shores on either side, except in its southernmost extremity.

Plynlimmon — a huge mountain with three summits, the highest of which rises to 2,481 feet — lies ten or twelve miles distant from the shore of Cardigan Bay (lat. $52^{\circ} 28'$). To the south and south-east of Plynlimmon, extending for a distance of about thirty miles, as far as a range called the Epynt Hills, is a mountain tract of very desolate character, which forms the most extensive waste in Wales. It presents no regular chains, but a succession of rounded hills and depressions, the surface of which is covered with mosses and peat, resting upon clay. Some parts of it consist of extensive bogs, among which, however, are scattered tracts of pasture land, covered with thin herbage. The peat is extensively used as fuel. To the east of this high and desolate tract, the country is still hilly; but with more gentle declivities, and interspersed with wider valleys, which admit of cultivation. The hills of Radnor Forest are 2,163 feet in height. This part of the country has a gradual slope eastward, towards the valley of the Severn, and is drained on the south by the river Wye and its tributaries.

The southern declivities of the Epynt Hills are divided by the valley of the Usk from the extensive range of the Black Mountain, or Forest Fawr, which contains the highest summits in South Wales. The mountains of this range are too steep and rocky to admit of cultivation, but are in general covered with herbage, and afford good sheep-walks. They derive their epithet of 'Black' from the dark appearance presented by the heath when out of blossom, and the dreary blackness of their general aspect. The highest summit of the

chain, called the Van or Beacon of Brecknock (a few miles south of the town of that name), is 2,862 feet above the level of the sea.

To the south of the Forest Fawr are the mountains of Glamorgan, which form an extensive and wide-spread region, stretching out in various directions; these, though not so elevated as the hills further north, present a more mountainous aspect, from the steepness of their declivities, the narrowness of the valleys, and the pointed peaks and narrow ridges with which the upper parts are crowned. Between the southern edge of this mountain tract and the Bristol Channel extends the *Plain or Vale of Glamorgan*, an undulating district, intersected by hills of gradual slope and small elevation: this plain extends on the east into the adjacent county of Monmouth, where it forms a low, flat tract near the coast, and is only preserved from the inundations of the sea by embankments of great extent. This level region is extremely fertile.

To the west of the Plain of Glamorgan, the country adjacent to the coasts of Caermarthen and Pembroke, and extending for some miles inland, has a gently undulating surface. Around the northern shores of Caermarthen Bay are some low, marshy tracts, of considerable extent. The peninsula of Gower, situated between Swansea Bay and the estuary called Burry River, is chiefly level, and resembles the Plain of Glamorgan.

The greater part of the Welsh mountains consists of rocks which geologists know as the Upper and Lower Silurian formations, and is composed of hard limestones and shales, with variously coloured sandstones. The Lower Silurian strata occupy all the central and western part of the mountain region; these are frequently of slaty texture, and slate is quarried in many parts of this tract, chiefly in the counties of Caernarvon and Merioneth. The only metallic ores which occur in these rocks are lead and cobalt, both in small quantities, and also copper, towards the northern part of the principality. But both at the north-eastern and southern extremities of the mountain region are extensive formations of carboniferous limestone, in which are valuable mineral deposits, including coal and iron, and also lead, copper, zinc, and other metals.

Among the principal summits within the Welsh mountain region are:—

Snowdon (Caernarvon)	3,590 feet	Cader Idris (Merioneth)	2,959 feet
Carnedd Llewellyn (Caernarvon)	3,469 „	Arran Mowddy (Merioneth)	2,955 „

Moel Shiabod (Caernarvon)	2,878 feet	Plynlimmon (Cardigan and Montgomery)	2,481 feet
Beacons of Brecknock	2,862 „	Radnor Forest	2,163 „
Carnedd-y-Filiast (Merioneth and Denbigh)	„	Precelly (Pembroke)	1,757 „
Arrenig (Merioneth)	2,816 „	Tregaron (Cardigan)	1,747 „
Cradle (Brecknock)	2,660 „	Blawrenge (Monmouth)	1,720 „
Rhinog Fawr (Merioneth)	2,345 „	Penmaen-mawr (Caernarvon)	1,540 „

4. The high grounds of Devon and Cornwall are divided from the region of the Welsh Mountains by the broad estuary of the Bristol Channel. They comprehend, in the north of Devonshire (and partly within the adjacent county of Somerset) the tract known as Exmoor; in the centre and south of Devon, the extensive plateau of Dartmoor; and, in Cornwall, a prolonged succession of high moorlands which stretch through the whole length of that county, terminating only in the promontories of the Lizard and the Land's End.

The principal elevations within this part of England are:—

On Exmoor, Dunkery Beacon (Somersetshire)	1,668 feet
On Dartmoor: Yes Tor	2,050 „
Amicombe Hill	2,000 „
Newlake Hill	1,925 „
Cawsand Beacon	1,792 „
Ripplin Tor	1,549 „
Butterton Hill	1,203 „
Cornish Heights: Brown Willy	1,364 „
Rough Tor	1,296 „
Tober Tor	1,127 „
Sharp Point Tor	1,200 „
Trewartha Tor	1,050 „
Hensbarrow	1,027 „

Dartmoor, which constitutes the main mass of the Devonshire highlands, forms a plateau of irregular surface, extending about twenty-two miles in the direction of north and south, and fourteen miles from east to west. Granite rock forms the nucleus of the entire region, and the principal elevations consist of huge masses of the same material. The highest point of Dartmoor, Yes Tor, is near its northern extremity (three miles S. of Oakhampton). Amicombe Hill is between two and three miles to the southward; Cawsand is further to the

east and north. The most elevated portions of the moor are found towards its northern and north-western extremity. The general elevation of the higher portion of the mountain plain is probably upwards of 1,200 feet. The steepest ascent to the mountain region is on the south, and the rivers on that side flow through deep and narrow valleys.

The high surface of Dartmoor is a wild and in most parts a barren tract, with very little grass, and the soil is in many places boggy. The granite is extensively quarried for building-stone. The slaty rocks which extend around the east, south, and west sides of Dartmoor (constituting what geologists know as the Devonian formation) are rich in mineral productions, including tin, copper, lead, iron, and manganese, as well as other metals in smaller quantities. Excellent limestone for building purposes, and also beautiful veined marbles, are worked in many places, chiefly near the south coast, and in the neighbourhood of Tor Bay.

The river Tamar, which forms the boundary between Devonshire and Cornwall, divides the highlands of Dartmoor from the elevated masses of the latter county, the higher portions of which consist also of granite. The *Cornish Highlands* stretch through the entire extent of the county, not forming a connected mountain chain, but a succession of wide-spread moorlands. The most extensive, and also the highest, of these is in the same parallel as Dartmoor: it contains the hill called Brown Willy, 1,364 feet in height. The high granite plain upon which this is situated extends about ten miles from east to west, and six or seven miles from north to south, and has an average height of about 800 feet. It is a dreary waste, without trees, and, like Dartmoor, has a boggy soil. The bottoms of the valleys are covered with bogs, in many places more than 12 feet deep, the lower part of which consolidates into peat.

In the more southern part of Cornwall, the highlands are of narrower extent, and form a single axis, which has a rapid slope towards the sea on either side. Hensbarrow, near St. Austell, is 1,027 feet high. In the extreme south-west peninsula, between St. Ives and Mount's Bays, the mountains form several elevated masses, varying from 600 to 800 feet in height, and granite cliffs form the high promontory of the Land's End. The more eastern peninsula, which terminates in the Lizard, is composed of serpentine, a rock of volcanic origin.

The Cornish highlands are the chief seat of produce of tin and copper, the principal mines of which are situated in the western part of the county, in the district between St. Austell and the Land's End: the mines chiefly occur at the points where the hard limestones and clay slates are intersected by the granite rocks.

Lead is also worked, but not to any great extent. Granite is extensively quarried.

The high regions above described, stretching, as they do with little interruption, from north to south along the whole western side of South Britain, exercised during the earlier periods of British history a highly important influence over the social condition of its inhabitants, and, as we shall hereafter see, they were long divided politically from the rest of the island.

The hills found in other parts of England are in general of greatly inferior altitude to the regions above described. They impart diversity of surface, however, to many parts of the island, especially to some of the northern, midland, western, and southern counties. These lesser elevations may be arranged (with reference merely to geographical position) under four headings:—

1. The hilly regions in the neighbourhood of the north-eastern coast, between the Tees and the Wash.
2. The high grounds which intervene between the Wash and the course of the Thames.
3. The hills which adjoin on either hand the valley of the Severn.
4. The hills lying southward of the Thames, between that river and the shores of the Channel, with the adjacent high grounds to the westward, as far as the valley of the Ex.

1. The first of these regions comprehends the *North York Moors*, with the *Wolds of Yorkshire and Lincolnshire*. Among these are the following elevations:—

North York Moors: Botton Head	1,489 feet
Loosehoe Hill	1,404 „
Black Hambleton	1,246 „
Roseberry Topping	1,022 „
York Wolds: Wilton Beacon	809 „

Between these tracts of high ground and the heights of the Pennine range, there intervenes the extensive plain of York. The

York Moors, and also the northernmost portion of the York Wolds, approach close to the shores of the German Ocean. In the chief part of their extent, however, the Wolds are divided from the sea by a low tract known as Holderness. The Wolds of Lincoln are similarly divided from the sea by an intervening tract of low country.

The higher portions of the North York Moors belong geologically to the oolitic series: these are succeeded, on their lower extensions, by limestones of the lias period.

The Wolds, both of York and Lincoln, consist entirely of chalk. Speeton Cliff, on the shore of Filey Bay, is the most northwardly extremity of the chalk which forms so large a portion of the eastern and southern coast-line of England.

2. The high grounds between the eastern side of the Wash and the north bank of the Thames comprehend —

The Chiltern Hills.

The East-Anglian Heights.

The Middlesex and Essex Heights.

The Chiltern Hills are a range of high chalk downs, which stretch in a north-eastwardly direction from the banks of the Thames (in the bend of the river which occurs between Henley and Wallingford) through the counties of Oxford and Buckingham, and into Hertfordshire. Thence the chalk is prolonged (in the same general direction of north-east, and passing a little to the east of the towns of Newmarket and Cambridge) through the counties of Cambridge, Suffolk, and Norfolk, till it terminates at Hunstanton Cliff, on the east side of the Wash. It is to the northward prolongation of the Chiltern range that the name of East-Anglian Heights is, for the sake of a general designation, applied. Among the highest elevations in this prolonged range are Kensworth Hill, in the NW. of Hertfordshire, 904 feet, and Ivinghoe Beacon, 903 feet. The Gog-Magog Hills (to the SE. of the town of Cambridge) are only 302 feet high.

The Middlesex and Essex Heights comprehend the detached high grounds which lie to the northward of London—as the hills of Harrow, Hampstead, and Highgate—with those that stretch through the middle portion of Essex (from the banks of the Lea and Roding, through Hainault and Epping Forests, and thence to the neighbourhood of Colchester). The elevation of these heights is inconsiderable, but they impart much diversity of surface to the district which they traverse. Langdon Hill, in Essex (SE. of Brentwood), reaches 620 feet above the sea. The summit of Highgate Hill is 426 feet, of Hampstead 430 feet.

3. The river Severn runs, in the upper portion of its course, through the high region of the Welsh mountains, deriving its head

waters from Plynlimmon. After leaving the mountain region (shortly before it enters the Shropshire plain), it flows through a valley of considerable breadth, bounded on either side by detached tracts of high ground.

Among the high grounds which adjoin the valley of the Severn and its estuary are:—

On the west.

Long Mynd (Shropshire).
 Caradoc Hills (Shropshire).
 Wenlock Edge (Shropshire).
 Clee Hills (Shropshire).
 Abberley Hills (Worcestershire).
 Malvern Hills (Worcester
 and Hereford).
 Dean Forest (Gloucestershire).

On the east.

The Wrekin (Shropshire).
 Clent Hills (Worcestershire).
 Lickey Hills (Worcestershire).
 Edge Hills (Oxford and War-
 wick).
 Cotswold Hills (Gloucestershire).
 Mendip Hills (Somerset).
 Polden Hills (Somerset).
 Quantock Hills (Somerset).

The ground which bounds the valley of the Severn to the eastward is generally of inconsiderable height in its northern part, but rises into hills further to the southward. The Wrekin (to the south-east of Shrewsbury) is a detached eminence, 1,320 feet in height. The Clent Hills (in the NE. part of Worcestershire) are 1,007 feet in elevation; the Lickey Hills, further to the southward, are about 800 feet. The Edge Hills, on the borders of Oxfordshire and Warwickshire, towards the south-western limit of the central plain of England, are 826 feet. East of the valley of the lower Severn is the prolonged oolitic range of the *Cotswold Hills*, the highest of which, — Cleeve Hill, near Cheltenham, — is 1,134 feet. The Cotswold Hills (which derive their name from the ancient sheep-cots formed on the hills or wolds) terminate on the north-east side of the Avon of Bath and Bristol, the former of which cities they surround in a beautiful amphitheatre: Lansdown Hill, to the north of Bath, is 813 feet high. On the opposite side of the Avon, a few miles south of Bristol, is Dundry Hill, an isolated eminence belonging to the same formation as the Cotswolds, 790 feet high.

The Valley of the Severn is a continuation of the plain country of Cheshire and Lancashire, and, together with that tract, completely divides the mountains of Wales from the rest of the island. Its western boundary is formed by the high ground connected with Wenlock Edge and the elevations of the Clee Hills, in Shropshire — the Malvern Hills, on the borders of Worcestershire and Herefordshire — and the hilly district of Dean Forest, further to the south.

The ranges of high ground which occupy the western part of

Shropshire, to the east and south of the Severn valley, exhibit much diversity of aspect. The Breidden Hills (adjoining the extreme western border of Shropshire, but chiefly within Montgomeryshire) reach 1,199 feet. These hills immediately adjoin, to the eastward, the valley of the upper Severn, by which they are divided from the mountains of Wales. To the east and south-eastward of the Breidden Hills and their connected heights succeed the Stiper Stones, the Long Mynd, the Caradoc Hills, and the prolonged ridge of Wenlock Edge, the three former lying in the general direction of N. and S., the last-named in that of NE. and SW. The highest point of the Long Mynd reaches 1,674 feet, and the Caradoc Hills (in the neighbourhood of Church Stretton) 1,200 feet.

The Cleve Hills rise to 1,805 feet. Hereford Beacon, the highest point of the Malvern Hills, is 1,444 feet above the sea. The Malvern Hills form a continuous but narrow range, nine miles in length, extending nearly in a straight line from north to south: on the east they rise at a considerable angle from the level of the valley, but on the west their ascent is more gradual, and the country exhibits in that direction a succession of low hills for the distance of some miles.

The high tract of Dean Forest has an elevation of about 900 feet, and forms a kind of undulating table-land, in some parts bleak and bare, in others yielding a short grass well adapted for sheep-pasturage. The wooded part consists of oak and beech trees, which formerly supplied a great quantity of valuable timber.

4. The portion of England lying south of the Thames, and embracing the extensive tract of country which stretches westward from the coast of Kent to the valley of the Devonshire Ex, is chiefly distinguished by the prolonged ranges of chalk downs which stretch through the larger portion of its extent.

The chalk of the southern counties forms two well-marked lines of elevation, distinguished respectively as the North and South Downs. The *North Downs* stretch from the neighbourhood of Dover, through Kent and Surrey, into the north of Hampshire. The *South Downs* extend from Beachy Head westward along the coast of Sussex and thence through the middle part of Hampshire (past Winchester) to the neighbourhood of Salisbury. Both ranges consist throughout of chalk.

In the east part of Kent, the chalk tract of the *North Downs* spreads out to a considerable breadth; but in advancing westward, it gradually assumes more of the character of a single ridge. The elevation of the hill upon which Dover Castle stands, on the north-east-side of the town of Dover, is 469 feet: the hills near Hollingbourn, east of Maidstone, exceed 600 feet: Botley Hill, on the borders of Kent and Surrey, is 880 feet. Leith Hill, 967 feet, to

the south-west of Dorking, in Surrey, and also Hind Head, further westward, are separated from the range of downs by a slight depression: neither of these two belongs to the chalk formation. To the west of Guildford, the high lands form a narrow ridge, which has the name of the Hog's Back, and runs westward in an unbroken line, for a distance of $6\frac{1}{2}$ miles, to the neighbourhood of Farnham: the high road between these places runs on the top of the ridge. In the north-west corner of Hampshire, on the borders of Berkshire, are Highclere Beacon, 900 feet, and Inkpen Beacon, 1,011 feet, the latter of which is the highest chalk hill in the island.

The country on the north side of the range above traced has a gradual slope towards the valley of the Thames, exhibiting for the most part a varied and undulating surface, with rounded hills and elevated downs, as the high grounds about Epsom, and also Banstead Downs, in the north of Surrey; and Bagshot Heath, further westward, in the neighbourhood of Windsor.

From Beachy Head, which consists of chalk cliffs 564 feet high, the *South Downs* run near the shores of the English Channel as far west as Brighton, whence they diverge inland, leaving between their base and the sea a tract of undulating surface, which gradually increases in breadth as the hills stretch further west. Ditchling Beacon (six miles to the north of Brighton) is 814 feet high; Rooks Hill Beacon (four miles north of Chichester), 702 feet; and Butser Hill (near Petersfield, in Hampshire), 882 feet. A transverse ridge of chalk, called the Alton Hills, runs northward from Butser Hill, and connects the South with the North Downs.

A considerable part of the district intervening between the North and South Downs, embracing the south-west portion of Kent and the adjacent portions of Sussex and Surrey, is called the Weald, from the ancient Saxon name for wood. This was formerly an immense forest, inhabited by swine and deer, and it still includes some extensive woodlands; but the greater part is now under cultivation, and is a highly fertile tract of country, the principal seat of the hop-culture.

Neither the North nor the South Downs form continuous ridges, but, like the chalk elevations in other parts of the island, are in several places cut through by river-valleys. The watershed between the streams which flow on the one side into the English Channel, and those which in another direction join the basin of the Thames, is found in a range of heights intermediate between the North and South Downs, and belonging to a distinct formation,—that called the Wealden (from the district of the Weald, above mentioned), which consists of various clays and sands. The chain of the *Wealden Heights* commences near Folkestone (to the

south-west of Dover), and extends through the south part of Kent, and nearly along the northern borders of Sussex, where it forms the high ground of Ashdown and Tilgate Forests. Some parts of this range are from 600 to 800 feet high : Crowborough Beacon, on Ashdown Forest, is 804 feet.

In the south part of Kent, adjacent to Dunge Ness, is a marshy tract, called Romney Marsh, a large portion of which consists of land reclaimed from the sea, and preserved from its inundations by artificial means.

In the southern part of Wiltshire, and chiefly on the west side of the valley of the Avon, is *Salisbury Plain*, a tract of high undulating country, which extends about 20 miles from east to west, and about 15 from north to south. It is for the most part a barren and woodless district, covered with a short thin grass, and only admitting of cultivation in the valleys of the streams by which it is crossed. The mean height of Salisbury Plain above the level of the sea is perhaps from 500 to 600 feet. The Marlborough Downs, a similar tract, adjoin Salisbury Plain on the north, and stretch eastward into the adjacent county of Berkshire, towards the valley of the Thames.

The high grounds of Salisbury Plain and the Marlborough Downs belong to the chalk formation, and are united on the east with the ranges of the North and South Downs; on the north-east they are only divided by the course of the Thames from the chalk of the Chiltern and East-Anglian Hills, already described. The basin of the lower Thames forms a deposit of clay, which is thus intermediate between two great lines of cretaceous formations.

The chalk of Salisbury Plain is prolonged to the south-west, through the northern part of Dorsetshire, as far as the neighbourhood of Beaminster, in that county. The continuous range of high ground which the chalk downs here form has sometimes been designated the Dorset Heights. Horn Hill, near Beaminster, is the western extremity of the chalk formation. From Horn Hill a range of chalk heights runs eastward, at a short distance from the coast, through the peninsula called the Isle of Purbeck, where it terminates in the cliffs of Ballard Down, opposite the Needles, in the Isle of Wight, fifteen miles further to the east. A line of chalk hills extends through the centre of the Isle of Wight, from the Needles, on the west, to Culver Cliff, on the east side: the highest point of this, Motteston Down, is 698 feet; but St. Catherine's Hill, in a detached range near the south point of the island, is 830 feet in height, and is the most elevated part of the island.

The chalk ranges of the South Downs and their western prolongation through Dorsetshire, on the one side, and those of the Purbeck Heights and the Isle of Wight, on the other, mark the limits of an

extensive basin of clay, which embraces the south part of Hampshire, with the adjacent portions of Sussex and Dorsetshire, as well as the northern shores of the Isle of Wight. Towards the eastern part of this basin is Portsdown, an isolated mass of chalk, 447 feet high. In its central part, between the Avon and the estuary of Southampton Water, is the high tract of the New Forest, a wooded district, which supplies abundance of oak and other timber.

From the south-western extremity of Salisbury Plain, a succession of high grounds (not forming, however, any continuous range of great extent) may be traced westward along the borders of Somersetshire, dividing that county from the adjoining counties of Dorset and Devon. A portion of these have been already spoken of, under the name of the Dorset Heights. Further to the westward are the *Blackdown Hills*, on the borders of Somerset and Devon, which form the southern boundary of the Vale of Taunton.

In the most western part of Somerset, and the north of Devonshire, is *Exmoor*, a high tract of land of considerable extent, which measures about 20 miles from east to west, and about 12 from north to south. Dunkery Beacon, its highest point, is 1,706 feet above the sea. The higher portions of Exmoor contain peat swamps of many acres in extent: it is almost destitute of trees, except on the banks of the rivulets by which it is watered, and which chiefly belong to the valley of the Ex. The whole tract forms an extensive sheep-pasture.

The high grounds of Exmoor, the Blackdown and Dorset Hills, Salisbury Plain, and the Marlborough Downs, with the southern and south-eastern slopes of the Cotswold Hills, enclose on three sides a considerable tract of country, belonging to the basin of the Bristol Channel, and watered by rivers which flow into that estuary. The limits of this tract nearly coincide with those of the county of Somerset, which has great variety of surface.

In the north part of Somersetshire are the *Mendip Hills*, which run in a general direction of east and west: their top forms a high flat, with a rapid slope on either side. The highest of the Mendip Hills is 1,100 feet; they belong chiefly to the mountain-limestone formation, and contain lead and calamine, as well as copper, manganese, and ochre.

To the south and south-west of the Mendip Hills is *Brent Marsh*, a low tract of land, which is naturally an immense swamp, but has been much improved by draining. It contains a great deal of peat, which furnishes fuel to the inhabitants. South of this marshy district are the *Polden Hills*, a range of trifling elevation; and further west, on the opposite side of the valley of the Parret, the

Quantock Hills, the highest parts of which are 1,270 feet in elevation. The Quantock Hills are separated from the Blackdown Hills by the Vale of Taunton, a highly fertile tract.

The most eastern part of Devonshire, with the adjacent portion of the county of Dorset, extending westward from the termination of the chalk ranges, is a hilly tract, in which are some ranges of high land, of small extent; these stretch from the neighbourhood of the Blackdown Hills to the sea-coast, and fill up the tract watered by the rivers Axe and Otter. Pillesdon Pen, in the western extremity of Dorset, is 934 feet high.

The south-western extremity of England forms a peninsular region, the high grounds of which are divided from the rest of the island by the valleys of the rivers Ex and Tawe,—the former flowing into the English Channel, the latter into Barnstaple Bay, at the entrance of the Bristol Channel. A straight line drawn from the town of Exeter to Baggy Head, on the north side of Barnstaple Bay, marks the north-eastern limit of the high lands of Devonshire and Cornwall, which attain a greater elevation than any other part of England to the south of the Trent.

PLAINS AND VALLEYS.—The most extensive area of perfectly level ground in the island is found upon the eastern coast of England, adjoining the shores of the Wash. This is the tract known as the district of the Fens, from the marshy aspect which formerly distinguished it, when unreclaimed by culture. Some tracts of like description, but of much smaller extent, occur on other parts of the coast. The plains and valleys which elsewhere alternate with the hilly parts of the island are by no means flat or monotonous in aspect, but present almost throughout that pleasing variety of undulating surface which is the general characteristic of English scenery.

For the sake of precise description, we may enumerate the following as the principal plains and valleys within the southern half of Britain:—

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| 1. The York Plain. | 6. The Central Plain. |
| 2. The Cumbrian Plain. | 7. The Fen District. |
| 3. The Cheshire Plain. | 8. The Eastern Plain. |
| 4. The Valley of the Severn. | 9. The Valley of the Thames. |
| 5. The Plain of Glamorgan. | 10. The District of the Weald. |

1. *The Plain or Vale of York* slopes eastward from the high grounds of the Pennine chain towards the German Ocean. Only its northwardly portion, however, reaches the sea: in its middle and southward divisions the Moorlands and Wolds of Yorkshire, and the Wolds of Lincoln, limit the plain to the eastward, and divide it from the ocean. In its furthest limits, the extent of the plain is upwards of 160 miles in the direction of north and south. East and west, it measures about 30 miles across, in a line with the city of York, but further south, under the parallel of the Humber—its widest portion—expands to a breadth of 45 miles. That portion of the plain which lies to the north of the Tees (within the counties of Durham and Northumberland) is narrowed by the near approach which the high grounds of the Pennine chain there make to the waters of the German Ocean.

The York Plain includes one of the most extensive river-valleys in the island—that formed by the united streams of the Ouse and the Trent, and within the very heart of which, upon the banks of the Ouse, the ancient city of York is situated. The lower portions of the rivers Tees, Wear, and Tyne, also fall within its limits, to the northward.

The western division of this extensive plain belongs, geologically, to the carboniferous system, all three members of which—mountain limestone, millstone-grit, and coal-measures—are largely developed within its limits. The high grounds of the Pennine range, by which it is bordered on the west, are almost wholly composed of carboniferous limestone. The millstone-grit and the coal-measures are succeeded to the eastward by a narrow belt of magnesian limestone, which runs (in the direction of north and south) through nearly the whole length of the plain, and within the limits of which are worked numerous quarries of good building-stone. To this succeeds a somewhat broader belt of new red sandstone. The eastern limits of the plain are marked by the oolitic limestones of the North York Moors, and the chalk of the Wolds.

The extensive plain above described includes two considerable coal-fields—one within the counties of Northumberland and Durham (where the plain reaches on the east to the waters of the German Ocean), the other stretching through the West Riding of Yorkshire and into the adjoining counties of Derby and Nottingham.

2. The tract here distinguished as the *Cumbrian Plain* adjoins the upper portion of the Solway Firth, and includes the broader part of the valley of the Eden. The greatest dimensions are east and west, in which direction the plain measures about 30 miles across. The hills on its eastern side rise with a steep ascent.

The greater part of this plain belongs to the new red sandstone formation. It is bordered on the south by a belt of magnesian limestone. The tract immediately adjoining the head of the Solway Firth is low and mossy. This forms the well-known Solway Moss, part of which falls within the Scotch border.

3. The *Cheshire Plain* comprehends, together with the middle and western portions of the county of that name, a large part of the adjoining county of Lancaster, including the coast district from Morecambe Bay southward, and all the tract watered by the middle and lower portions of the Mersey. The plain country is limited to a mere narrow strip along the northerly portion of the Lancashire coast, but in the south of Lancashire, and in the adjacent county of Chester, it has a breadth of from 30 to 35 miles.

Tertiary formations immediately adjoin the Lancashire coast, but the larger part of the Cheshire plain belongs to the new red sandstone formation. Vast beds of rock-salt, and also brine-springs, occur within the valley of the river Weaver, the most considerable affluent of the Mersey. The southward portion of Lancashire includes an extensive coal-field, which extends from the plain country over the high moorlands belonging to the Pennine chain.

4. The *Valley of the Severn* (limiting the term to the country watered by that river after it has issued from the mountain region) forms a southwardly continuation of the Cheshire Plain. Together with that tract, it completely divides the mountains of Wales from the rest of the island. The broadest portion of the Severn Valley is to the north of the city of Worcester, where it measures about 15 miles across. But its breadth is much more limited in the chief part of its extent, by the closer approach of the high grounds upon either side.

Portions of the Valley of the Severn are locally distinguished as the Vale of Worcester, the Vale of Gloucester, and the Vale of Berkeley. The last-mentioned of these lies wholly to the east of the river, in its lower course, and stretches along the foot of the Cotswold Hills. The Vale of Evesham, which opens into the Valley of the Severn on the eastward, is watered by the Upper Avon. These valleys are throughout distinguished by great natural beauty, and uniformly possess a rich and fertile soil.

The predominant geological feature of the region is new red sandstone, bordered on the east by limestone of the lias period, and on the west by old red sandstone. The Shrewsbury, Coalbrook Dale, Dean Forest, and Bristol coal-fields, fall either within or immediately adjacent to its limits.

5. The *Plain of Glamorgan* (or Vale of Glamorgan, as it is locally termed) stretches along the northern shores of the Bristol Channel

for a length of above 40 miles, and with a breadth, in its widest part, of about 10 miles. It is for the most part an undulating region. The eastward continuation of the plain, extending from Glamorgan into the adjoining county of Monmouth, is low and flat near the coast, and is only preserved from inundation by artificial means. This strictly level tract is a region of great natural fertility.

6. The term "*Central Plain*" may be used to designate that portion of England which includes the larger number of the midland counties, embracing in the direction of north and south the country which extends from the banks of the Trent to the upper portion of the Thames Valley, and reaching east and west from the hills that border the Severn Valley to the low grounds of the Fen district. This is not a level plain, but rather a moderately elevated and undulating region, without any prominently marked variety of surface. Many of the principal rivers of England have their origin in this district, which, however, exhibits no well-defined line of watershed, and is devoid of any striking feature of superficial contour. Its average elevation varies from 200 to 400 feet: the town of Buckingham is 265 ft.,—Northampton, 274 ft.,—Oakham, 362 ft.,—Leicester, 326 ft.,—and Birmingham, 349 ft., above the sea. The tract between the sources of the Welland and the Nen, which flow into the Wash,—the Avon, which runs past Stratford and Evesham into the Severn,—and the Soar, which belongs to the basin of the Trent,—has perhaps the greatest average elevation. The sources of all these rivers are within a few miles of each other—those of the Welland and the Avon less than three miles apart; the Ouse, and some of the tributaries of the Thames, have their origin in the more southern part of the same region.

Three detached coal-fields occur in the central plain, in the neighbourhoods of Coventry, Ashby-de-la-Zouch, and Dudley, all situated towards its northern and western portion; the last is of the greatest extent, and is the seat of an extensive iron manufacture.

7. The *District of the Fens* embraces the low tract lying round the shores of the Wash, and derives its name from the fact of its having formed, in a natural state, a vast fenny or swampy region, a large portion of which was formerly covered, at least at intervals, by the sea. It extends over parts of the counties of Lincoln, Northampton, Huntingdon, Cambridge, Suffolk, and Norfolk—the first-named of them including the larger portion of its area. Geographically, the low tract which intervenes between the Lincolnshire Wolds and the sea, with the district of Holderness, to the north of the Humber, and the low grounds which border that river up to the confluence of the Trent and the Ouse, belong to the same region.

The fenny nature of this extensive tract of country was due to its

almost perfect level, which gave no sufficient outfall to the waters. The substratum of the Fen district consists of stiff clay, upon which is a covering of earth and accumulated vegetable matter: many parts of it are now very fertile, but have only been rendered so by immense outlay of money, and the drainage of the whole region is still imperfect.* In the western part of the Fens there were formerly some extensive shallow lakes or meres, which owed their origin to the accumulation of water from the flatness of the whole district, and the consequent want of outfall. The largest of these was Whittlesea Mere, which exceeded two miles in length: it has within a recent period been drained, and an area of above 1,500 acres reclaimed for cultivation.

8. The *Eastern Plain* of England is the generally level tract which extends between the district of the Fens and the shores of Norfolk, Suffolk, and Essex, the larger portion of which counties falls within its limits. Geologically, this tract is divided between the cretaceous and the tertiary formations, together with, on portions of the coast, masses of drift, and other rocks of recent or post-tertiary origin.

The chalk of this part of England begins on the north at Hunstanton Cliff, on the eastern side of the Wash, and extends thence without any break to the valley of the Thames.† Chalk forms the

* A large portion of the Fen country is commonly known by the name of the Bedford Level, from the circumstance of the Earl of Bedford having formed a company for the purpose of its drainage, in the time of Charles I. The drainage was originally effected by means of windmills, after the practice common in Holland, and the water thereby raised into artificial channels and carried off to the sea; steam-engines are now chiefly employed for this purpose. The most swampy region, and that which has caused the greatest expense in drainage, belongs to the lower courses of the Ouse and Nen, and the low grounds about March, Wisbeach, and Whittlesea. The earliest reclaimers of the soil in this district were the Romans, whose causeways, stretching across the marshland, are still traceable. Next after them, the Saxons (whose former abodes, on the marshy shores of Friesland, had made them intimately familiar with such conditions of nature) laboured in the same work. Religious recluses settled, in numerous instances, upon reed-grown islands which rose above the general level of the surrounding fens, and found a safe retreat in such spots. Ely, Croyland, Thorney, Ramsay, and other abbeys, were so situated. Canute, sailing in his ships over the surrounding waters, listened to the monks of Ely singing. The district, however, for centuries after those times, and down even to a recent period, remained for the most part a swampy wilderness, and unhealthy vapours rose everywhere from the damp soil. Ague and fever abounded, and an ague-stroke was familiarly known in the Fens as "an arrest by the bailiff of marsh land." (*Lives of the Engineers*, by Samuel Smiles: London, 1861.)

† See *ante*, p. 30.

subsoil through more than two-thirds of the area of Norfolk and Suffolk. An irregular line drawn from the neighbourhood of Cromer, on the Norfolk coast, past Norwich, to the river Orwell, above Ipswich, and thence to the valley of the river Lea, below Hertford, divides the chalk from the clay of the London basin and the "crag" * of the eastern coast. Upon the coasts both of Norfolk and Suffolk the estuaries of the streams are bordered by alluvial matter, consisting of clay, gravel, and boulders, known by the general name of "drift."

9. The *Valley of the Thames* stretches back from the extensive estuary of that river to within less than 30 miles of the western coast, and is bordered on either side by the high grounds described in a preceding page.† These grounds nowhere reach any considerable height in the immediate neighbourhood of the river, excepting in the bend which it makes some miles above Reading, where the chalk of the Chiltern Hills abuts upon the stream.

The lower portion of the Thames valley coincides with the extensive deposit of clays and sands, known geologically as the London clay. This attains its greatest breadth in the neighbourhood of the metropolis, and spreads over by far the larger part of the county of Essex. Above London its breadth gradually lessens, and it becomes lost in the chalk within the western part of Berkshire.‡ Fresh-water deposits border the clay in the lower portion of the Thames estuary, upon either side. Above Abingdon, the course of the Thames is through the various deposits which belong to the oolitic limestone group.

10. The *District of the Weald* includes parts of the counties of Kent, Sussex, and Surrey. It is an extensive plain or valley, enclosed on three sides—the north, west, and south—by the high grounds of the chalk. The range of ground described under the name of the Wealden Heights (p. 33) intersects it in the direction of east and west, and forms the line of division, or watershed, between the streams that join the Thames and those that flow into the English Channel.

Geologically, the tract of the Weald represents an extensive

* The term "crag" is applied to a shelly deposit of sand, clay, and gravel, belonging to the older divisions of the tertiary series, and extensively developed in this part of England.

† See *ante*, pp. 30, 33.

‡ The clay reappears in the south of Hampshire, and covers an extensive area in that county, stretching along the line of the southern coast from the neighbourhood of Brighton on the east to the Isle of Purbeck (Dorsetshire) on the west. It includes all the northern division of the Isle of Wight. This clay basin is completely enclosed by the chalk.

estuary, within which were deposited numerous plants and animals that were among the former inhabitants of the older adjacent formations, and the remains of which are now found mixed with the sedimentary deposits of marine origin. Fresh-water shells also occur within its limits. The name of "the Wealden group" has been given to the variously coloured clays, sands, shelly limestones, and shales, which belong to this extensive area.

Some of the less extensive valleys of England and Wales are enumerated in the subjoined list. These form part, in several instances, of the larger tracts of ground already noticed:—

Vale of Aylesbury, in Buckinghamshire.	Vale of Lorton, in Cumberland.
Vale of Blackmore, in Dorsetshire.	Vale of Pewsey, in Wiltshire.
Vale of Berkeley, in Gloucestershire.	Vale of Pickering, in Yorkshire.
Borrowdale, in Cumberland.	Vale of Red Horse, in Warwickshire.
Vale of Catmoss, in Rutlandshire.	Ribblesdale, in Yorkshire and Lancashire.
Vale of Cleveland, in Yorkshire.	Swaledale, in Yorkshire.
Dovedale, in Staffordshire and Derbyshire.	Vale of St. John, in Cumberland.
Vale of Evesham, in Worcestershire.	Vale of Taunton, in Somerset.
Vale of Gloucester, in Gloucestershire.	Teesdale, in Durham and Yorkshire.
Vale of Llanberris, in Caernarvonshire.	Vale of Wardour, in Wiltshire.
Vale of Llangollen, in Denbighshire.	Weardale, in Durham.
	Wensleydale, in Yorkshire.
	Vale of White Horse, in Berkshire.
	Vale of Worcester, in Worcestershire.

ISLANDS.—The islands which adjoin the coasts of England and Wales are much less numerous than those belonging to North Britain. Several of them lie so nearly adjacent to the mainland as almost to form a portion of it, and their insularity is scarcely noticeable upon an ordinary map, unless of large scale. This is not the case, however, with Man, Anglesey, and Wight, the three largest of the number; nor with the group of the Scilly Islands, at the mouth of the Channel. In some instances, as in the Isle of Thanet, now only divided from the mainland of Kent by the river

Stour and a narrow offset by that stream, the division was formerly much more complete than is at present the case.

The ISLE OF MAN is situated in the Irish Sea, nearly equidistant between the three divisions of the United Kingdom — England, Scotland, and Ireland. It is, however, rather nearer to the Scotch than to the English coast. Man is now reckoned to England, though not belonging to either of the English counties, nor having any direct representation in the Imperial parliament. Long a distinct kingdom, it has still some peculiar political privileges.

The northern extremity of the Isle of Man is distant 30 miles (in direct measure) from St. Bees Head, on the coast of Cumberland. From Burrow Head, on the coast of Wigtown, Scotland, it is 18 miles distant, and from the Mull of Galloway 25 miles. The Isle of Man measures 30 miles in its greatest length, and has an average breadth of about 10 miles; its area is 220 square miles (56,980 hectares). The interior of this island is high, a range of hills running through it in a NE. and SW. direction; the most elevated summit, called Sneafeld, nearly in its centre, is 2,004 feet in height. Its extreme northern portion is low, and consists of tertiary formations. Owing to the central position of this island, all the different portions of the British Archipelago, — Ireland, Scotland, England, and Wales, — can be seen from its hills in clear weather.

The Isle of Man is rich in its mineral productions, which embrace lead, copper, silver, iron, and manganese, as well as good slate and building stone. The lead ore is that chiefly worked, and copper, iron, and tin, to a smaller extent. Of the total area of the island, about 140 square miles are fit for tillage, the remainder consisting of hill, common, and waste land. The Calf of Man is a small rocky island off the south-west extremity of the larger island: some sheep are reared, and turnips grown, on its surface.

The ISLE OF ANGLESEY (with Holyhead Island, which adjoins it on the west) forms one of the Welsh counties. Anglesey is separated from the mainland by the Menai Strait: it measures 20 miles in length from north to south, and 22 miles from east to west; and, including the adjacent island of Holyhead, has an area of 302 square miles (78,218 hectares). The surface of Anglesey is generally level, with a few gentle risings: in the northern part, the Parys Mountain reaches 473 feet in height. The whole island is rich in mineral productions, and copper ore is found within a few feet of the surface, forming, in some places, a mass or bed of considerable thickness. In the Parys mountain, both copper and lead ores are abundant, and also sulphate of copper and native sulphur. In the eastern half of the island there is a small but productive coal-field.

Holyhead Island (on which is the town of Holyhead) is elevated in its north-western part, the highest point being more than 700 feet above the sea-level. It is united to Anglesey by two long embankments, over which the coach-road, and also the line of the Chester and Holyhead railway, are carried.

The ISLE OF WIGHT lies in the English Channel, off the southern coast of England, from which it is divided by the channel called the Solent. This channel measures, in its narrower portion to the westward, about 3 miles across: its eastern and broader part, which is known as Spithead, is above 4 miles wide.

The Isle of Wight measures 23 miles in its extreme dimensions east and west, and 13 miles from north to south. Its superficial area is 135 square miles (34,965 hectares). Its surface is beautifully diversified with hill and dale, the higher points of the land, in the centre and south of the island, reaching altitudes of above seven and eight hundred feet.*

* See *ante*, p. 34.

The Isle of Wight possesses great diversity of geological formation. The northern half belongs to the clay basin of the opposite coast: the middle and south of the island consist principally of cretaceous rocks, divided by a narrow band of Wealden sand. The chalk of the Isle of Wight extends in a direct line through the greatest length of the island, from Culver Cliff, nearly at its eastern extremity, to Freshwater Bay, at its opposite extreme. The well-known rocks called "the Needles" are the westernmost extremity of the chalk.

The smaller islets adjoining the English coast are:—

On the east, within the German Ocean.

Holy Island, or *Lindisfarne*; the little group of the *Fern Islands*, and the small island of *Coquet*; all belonging to Northumberland. *Lindisfarne* is joined to the mainland, at low water, by a broad expanse of sand. It measures nine miles in circumference, and contains 1,020 acres (about $1\frac{3}{4}$ square miles). The soil of one half the island is little better than sand, and is stocked with rabbits: the other half is under cultivation. The *Fern* group includes seventeen rocky inlets. *Coquet Island* lies off the mouth of a river of the same name.

Mersea, *Wallsea*, *Foulness*, and *Canvey Islands*, all of which form part of the Essex coast, and are only divided from the mainland by narrow creeks. All these islands are low and flat; they possess a fertile soil. *Canvey* is within the estuary of the Thames: the others line the coast between *Shoebury Ness* and the mouth of the river *Colne*.

Thanet and *Sheppey*, both of which belong to Kent. The eastern extremity of *Thanet* is the promontory of the *North Foreland*, formed by the chalk cliffs which line this portion of the coast. The Isle of *Thanet* has an area of about 40 square miles. The main channel of the river *Stour* bounds it on the south: a branch of this river—now a mere ditch, but formerly a wide stream, known as the river *Wantsum*—forms its western limit. This

stream was anciently wide enough to admit the passage of large vessels.

Sheppey adjoins the estuary of the Medway ; it is divided from the mainland by the principal channel of that river on the west, and by a branch of it, called the East Swale, upon the south. Sheppey is 9 miles long by 3 broad, and has an area of about 33 square miles. It is of tertiary formation. The cliffs on its north coast abound in pyrites, from which copperas is extracted. The south part of the island is low and marshy.

On the south coast, within the English Channel.

Portsea, Hayling, and Thorney Islands, off the coast of Hampshire, and nearly fronting the eastern division of the Isle of Wight. These are formed by arms of the sea which indent the coast of the mainland, and penetrate for some miles into the interior. The bay to the west of Portsea Island forms Portsmouth Harbour ; that to the east (between Portsea and Hayling Islands) is Langston Harbour. East of Hayling is Chichester Harbour.

Portsea Island has the town of Portsmouth at its southwestern extremity : it is only divided from the mainland by a narrow creek. The channel which divides Hayling Island from the mainland is (at high water) nearly half a mile across. Portsea and Hayling Islands front the open waters of the Channel. Thorney Island, which is of smaller size, is enclosed within the estuary which limits Hayling Island on the east.

Purbeck and Portland Islands are portions of the Dorsetshire coast. Both are in reality peninsulas. The Isle of Portland (the termination of which forms Portland Bill) is connected with the mainland by a singular ridge of shingle, 10 miles long, composed of loose rounded stones, and known as the Chesil Bank.

Drake's Island is a bold rock, within the broader portion of Plymouth Sound.

The Eddystone (on which is a well-known lighthouse) is

a rock lying SW. from Plymouth Sound, and distant 9 miles from the entrance of that estuary.

On the west, within the Irish Sea and the Atlantic Ocean.

Walney, and a few smaller adjacent inlets, lie near the coast of Furness (Lancashire), off the west side of Morecambe Bay. *Walney* is 8 miles long by less than half a mile broad: it consists of moss or peat, and is so low as to be at times nearly inundated by the tide. *Old Barrow Island*, *Peel Island*, *Foulney Island*, and a few of still smaller size, are situated between *Walney* and the mainland.

Bardsey Island, nearly 2 miles long, is off the southwestern extremity of Caernarvonshire, near the headland of Braich-y-Pwll. A short distance to the eastward is the little group of *St. Tudwall's Islands*.

Ramsey Island is off the coast of Pembrokeshire, upon the north side of the entrance of St. Bride's Bay. *Skomer* and *Skokham Islands*, with *Grasholm*, are on the southern side of the same bay, near St. Anne's Head.

Caldy Island is off the western entrance of Caermarthen Bay, near the coast of Pembrokeshire.

Lundy Island is off the coast of Devon, upon the south side of the broader portion of the Bristol Channel, and 11 miles distant from Hartland Point. It is a mass of granite, 2 miles long, and rising 200 feet above the sea.

The Scilly Islands, a numerous group of islets and rocks, lie 30 miles distant from the Land's End, and to the SW. of that promontory. They have together an area of about 4,000 acres (between 6 and 7 square miles). *St. Mary*, the largest of the group, is about 8 miles in circumference. Only six of the group are inhabited: the crops grown are potatoes, barley, peas, and oats. Cattle are reared on the islands, and many of the people are engaged in fishing.

RIVERS.—Most of the larger rivers of Britain discharge

into the North Sea, on the east side of the island. This results from the fact of the higher grounds being found principally in the neighbourhood of the western coast. The general slope of the whole island is directed from west to east. An important exception to this truth is presented in the case of the Severn, which is second in length amongst the rivers of Britain, and is one of the most considerable in the area of its basin. The Severn, however, has at first an eastwardly course, and rounds the mountain-region of Wales before it turns towards the western sea. Of other exceptions, the two most noteworthy are the Mersey, in South Britain, and the Clyde, in the northern division of the island. These, however, though of the highest importance in a commercial point of view, are inferior to many other streams in length.

In the north of England, the watershed between the river-basins of the opposite seas is formed by ground of considerable elevation, and coincides with the principal axis of the Pennine chain. But in the central, southern, and eastern parts, the watersheds are of trifling height, and can sometimes only be traced with difficulty, the head-waters of the opposite streams frequently approaching within a short distance of one another. Neither the ranges of the Chiltern Hills, nor those of the North and South Downs, form lines of watershed, but are broken through by numerous river-valleys. The entire drainage of the Welsh mountain system belongs to the western seas, the waters of the longer slope flowing to the SE. and NE. by the valleys of the Severn and the Dee, and those of the shorter and more rapid declivity into Cardigan Bay and the western extremity of the Bristol Channel.

The principal rivers of England and Wales, commencing on the east coast, from north to south, and proceeding round the island, are the following:—

On the east side, the *Aln*, the *Coquet*, the *Wansbeck*, the *Blyth*, the *Tyne*, the *Wear*, the *Tees*, the *Esk*, the *Humber* (the last formed by the junction of the Ouse and

Trent): the *Witham*, the *Welland*, the *Nen*, and the *Great Ouse*, all of which flow into the estuary of the Wash; the *Yare*, the *Blythe*, the *Alde*, the *Deben*, the *Orwell*, the *Stour*, the *Colne*, the *Blackwater*, and the *Crouch*; the *Thames*, which forms at its mouth a broad estuary, and receives the waters of the *Medway*; and another river *Stour*, which flows through the county of Kent, and enters the sea on the coast intervening between the North and South Forelands. All of these rivers flow into the German Ocean, or North Sea.

On the south coast the rivers have mostly short courses: amongst them are the *Rother*, the *Ouse* (of Sussex), the *Adur*, the *Arun*, the *Itchin*, the *Anton*, the *Avon* (of Salisbury), the *Stour* (of Dorsetshire), the *Frome*, the *Axe*, the *Otter*, the *Ex*, the *Teign*, the *Dart*, the *Plym*, the *Tavy*, the *Tamar*, the *Fowey*, and the *Fal*. The three most considerable amongst them are the Salisbury Avon, the Ex, and the Tamar. All the rivers of the south coast flow into the English Channel.

On the west side the *Camel* (or *Alan*) flows into the Atlantic Ocean; the *Torridge* and the *Tawe* into Barnstaple Bay; the *Parret*, the Bristol *Avon*, the *Severn*, the *Wye*, the *Usk*, and the *Taff*, into the upper portion of the Bristol Channel; the *Neath* and the *Tawe*, into Swansea Bay; the *Towy*, into Caermarthen Bay; the *Teify*, into Cardigan Bay; the *Conway*, the *Dee*, the *Mersey*, the *Ribble*, the *Lune*, the *Kent*, the *Duddon*, and the *Derwent*, into the Irish Sea; the *Eden*, into the head of the Solway Firth.

Besides the above, there are a great number of smaller streams, by which every part of the island is watered: these may be best learnt by attentive study of the Map.

The following Tables show the lengths and areas of drainage of the principal rivers of England and Wales, with the names of their chief tributaries, extent of navigation, and other particulars:

Rivers flowing into the German Ocean.

	Length in Miles	Area of Basin in sq. Eng. Miles	Extent of Navigation, &c.
Tyne	73	1100	Navigable to Newburn, five miles above Newcastle.
Wear	70	460	Navigable to Durham.
Tees	95	744	Navigable to Stockton.
Humber { Ouse Trent	{ 150 180 }	9550	The Ouse is formed by the confluence of the Swale and Yore, or Ure: the Swale is navigable to Morton Bridge, near Topcliffe; and the Ure to Ripon. The Ouse afterwards receives the Nidd, the Wharfe, the Derwent, the Aire (navigable to Leeds), and the Don (navigable to a few miles below Sheffield). The Calder, a considerable tributary of the Aire, is navigable to Wakefield.
			The Trent is navigable to Burton; its principal tributaries are, on the left bank, the Dove and the Derwent (navigable to Derby), — and on the right, the Tame, and the Soar (navigable to Leicester).
Witham	89	1050	Navigable to Lincoln.
Welland	72	708	Navigable to Stamford.
Nen	99	1155	Navigable to Northampton.
Ouse (Great)	156	2960	Navigable to Bedford.
Yare	70	1180	The longest branch of the Yare is called the Wensum, and is navigable to Norwich, a little below which town it joins the proper stream of the Yare. A short distance above its mouth, the Yare passes through the small lake of Breydon Water, at the head of which it is joined by the river Waveney, navigable to Bungay.

	Length in Miles	Area of Basin in sq. Eng. Miles	Extent of Navigation, &c.
Stour (<i>Essex</i>)	62	430	<p>The Stour is navigable to Sudbury; for some miles above its mouth it forms a considerable estuary, at the entrance of which it is joined by the Orwell. the river upon which Ipswich stands. The Orwell is navigable to Stowmarket; above Ipswich it is called the Gipping.</p> <p>Navigable to Colchester, which is also the limit of the tide-water.</p> <p>The Blackwater is called in its upper course the Pant. The last 10 miles of its course form a tidal estuary. At Maldon, immediately above the head of the estuary, the Blackwater is joined by the Chelmer, which has a length of 37 miles above the junction. The Chelmer is navigable to Chelmsford.</p> <p>The upper part of the Thames is called the Isis: its chief affluents are the Cherwell, Thame, Colne, and Lea, on the <i>left</i> bank; and the Kennet, Wey, Mole, Darent, and Medway on the <i>right</i>. The main stream of the Thames is navigable to Lechlade, 205 miles above its mouth. The Medway, which joins the Thames near its mouth, is 60 miles in length, and is navigable to Penshurst: by a branch called the East Swale, it encircles the Isle of Sheppey. Steam-boats ascend the Thames to Hampton Court, 7 miles above Richmond, which latter place is the limit of the tide-water.</p> <p>Navigable to Canterbury: a branch thrown off to the left, near its mouth, forms, with the main stream, the Isle of Thanet.</p>
Colne	38	200	
Blackwater	50	465	
Thames	215	6160	
Stour (<i>Kent</i>)	55	310	

Rivers flowing into the Bristol Channel.

	Length in Miles	Area of Basin in sq. Eng. Miles.	Extent of Navigation, &c.
Parret	40	560	<p>The Parret is joined on its right bank by the Yeo, navigable to Ilchester; and on the left bank by the Tone, navigable to Taunton.</p> <p>Navigable to Bath.</p> <p>The Severn rises on Plinlimmon, among the mountains of Wales, and begins to be navigable at Welshpool, 163 miles above its mouth. Its chief tributary on the right is the Teme, which joins it below Worcester: on the left bank it is joined by the Virnwy (on the borders of Wales), the Tern (below Shrewsbury), the Stour (at Stourport), and the Avon (at Tewkesbury). The Avon has its origin in the central plain of England, near the sources of the Welland and the Nen; it has a length of 99 miles, and is navigable to Stratford. Steam-boats ascend the Severn to Gloucester, which is also the limit of the tide-water.</p>
Avon (<i>of Bristol</i>)	78	900	
Severn	200	4500	<p>The Wye rises on the SE. slope of Plinlimmon, only a mile distant from the source of the Severn, and is remarkable for the beauty of the scenery in the lower part of its course; it is navigable to Hay, on the borders of Wales.</p>
Wye	148	1650	
Usk	76	650	<p>The Usk rises on the northern slope of the Caermarthenshire Beacons, in the range of the Black Mountains, the highest ground of South Wales: it is navigable only to Newport, a few miles above its mouth.</p>
Towy	67	520	

The tide ascends this stream to above Caermarthen.

Rivers flowing into the English Channel.

	Length in Miles	Area of Basin in sq. Eng. Miles	Extent of Navigation, &c.
Ouse	35	188	Navigable to near Cuckfield.
Arun	51	315	Navigable to Houghton Bridge, 15 miles above its mouth.
Anton or Test	35	460	The Anton falls into the head of the estuary called Southamp- ton Water, which also receives the Itchin, on which Winchester stands.
Avon (<i>of Salis- bury</i>)	70	1210	Navigable to Salisbury: near its mouth it is joined by the Stour, which flows past Blandford and Wimborne Minster, and has a course of 64 miles.
Frome	43	330	This river forms at its mouth the inlet of Poole Harbour. It is not navigable above Wareham.
Ex	58	562	Navigable to Topsham, near Exeter.
Tamar	55	600	Navigable to near Launceston: the Tamar enters the estuary of Plymouth Sound, above which it is joined on the left bank by the river Tavy. The Plym enters the same estuary.

Rivers flowing into the Irish Sea.

	Length in Miles	Area of Basin in sq. Eng. Miles	Extent of Navigation, &c.
Teify	70	400	Navigable to about 5 miles above Cardigan.
Dee	93	850	The Dee flows from Lake Bala, the largest lake in Wales: its estuary becomes at low water a mere muddy expanse, through which the channel of the river preserves an insignificant course. The Dee is navigable to Chester, to which place the tide ascends.

	Length in Miles	Area of Basin in sq. Eng. Miles	Extent of Navigation, &c.
Mersey	68	1706	<p>The Mersey is formed by the union of the Goyt and Etherow, both of which flow from the high grounds of the Pennine chain: at its mouth it expands into a magnificent estuary, navigable for vessels of the largest size. On the right bank it receives the Tame and the Irwell; on the left side, at the head of the estuary, it is joined by the Weaver, which flows through the Cheshire plain, and is remarkable for the deposits of rock-salt, and the brine-springs, occurring in the district which it waters. The tide ascends the Mersey to Warrington.</p> <p>Navigable to Preston.</p> <p>Navigable to Lancaster.</p>
Ribble	60	500	
Lune	53	430	
Kent	28	196	
Duddon	27	117	
Derwent	35	260	<p>The Derwent carries to the sea the surplus waters of several of the lakes belonging to the Cumbrian mountain region. The drainage of the high valley of Borrowdale is received into the lake of Derwent, whence the river flows into Bassenthwaite Lake. After leaving this, the Derwent receives at Cockermouth the waters of the Cocker, which is the outlet of the lakes of Crummock, Buttermere, and Lowes Water. The Greta, which joins the Derwent near the foot of Derwent Water, brings with it the waters of Thirlmere. The Derwent is only navigable for a mile above its mouth, which forms the harbour of Workington.</p> <p>Navigable to Carlisle.</p>
Eden	80	995	

It hence appears that the great estuaries formed by the Humber, the Wash, and the mouth of the Thames, on the *east* coast, and the upper part of the Bristol Channel on the *west*, receive the greater part of the running waters of the island. The united area of the river-basins of the Wash (including the Witham, Welland, Nen, and Ouse) is 5,833 square miles; and of the Severn, the Bristol Avon, the Wye, and the Usk, jointly 7,700 miles: if we add to these the areas of the Humber and the Thames drainage, we have a total of 29,243 square miles, or half the superficial extent of England and Wales.

LAKES.—The only part of England in which lakes are numerous is the group of the Cumbrian Mountains. The largest of them, Windermere, is eleven miles in length and one mile in breadth; Ulleswater, the next in magnitude, is eight miles long and about three-quarters of a mile broad; and Coniston, the third in dimensions, has a length of five and a half miles and an average breadth of half a mile.

The smaller lakes found in the same region are Wast Water, Ennerdale, Buttermere, Crummock, Lowes Water, Derwent Water, Bassenthwaite, and Thirlmere,—all situated on the W. and NW. slopes of the mountain tract: Hawes Water, which (as well as Ulleswater) lies on the NE. side of the mountains; Rydal Water, Grassmere, and Esthwaite Water, in the valleys opening towards the south, which is also the direction of Windermere and Coniston. Nearly all of these are long and narrow, or else oval-shaped, bodies of water.

The principal lakes of the Cumbrian mountain region are exhibited in the following Table, with their dimensions, elevation above the sea-level, and the names of the streams by which their waters are carried off to the sea.

	Length	Breadth	Elevation	
	Miles	Miles	Feet	
Windermere .	11	1	116	Discharged by the river Leven into Morecambe Bay.
Rydal Water .	$\frac{3}{4}$	$\frac{1}{3}$		
Grassmere .	1	$\frac{3}{4}$	180	Connected with Rydal Water by a small stream.
Esthwaite Water . }	2	$\frac{1}{2}$	198	
				Flows into Windermere, by a stream called Cunesey Beck.
Coniston .	$5\frac{1}{2}$	$\frac{1}{2}$	105	Flows by river Crake into Morecambe Bay, entering the estuary formed at the mouth of the Leven.
Wast Water .	$3\frac{1}{4}$	$\frac{1}{2}$	160	
Ennerdale .	3	$\frac{1}{2}$		Connected with the Irish Sea by the river Irt.
Buttermere .	$1\frac{1}{4}$	$\frac{1}{3}$		
				United with the Irish Sea by the river Ehen.
				Flows by a small stream into Crummock Water.
Crummock .	3	$\frac{1}{2}$	260	Discharged by river Cocker into the river Derwent.
Lowes Water .	$1\frac{1}{4}$	$\frac{1}{3}$		
				Connected by a small stream with Crummock Water.
Derwent Water . }	3	$1\frac{1}{4}$	288	Connected with Bassenthwaite Lake by the river Derwent.
Bassenthwaite	4	$\frac{3}{4}$	210	Discharges by river Derwent into the Irish Sea.
Thirlmere .	$2\frac{1}{2}$	$\frac{1}{4}$	473	A stream called St. John's Beck flows from Thirlmere into the river Greta, which joins the Derwent at the foot of Derwent Water.
Ulleswater .	8	$\frac{3}{4}$	318	Discharges by the river Eamont into the channel of the Eden.
Hawes Water	$2\frac{1}{2}$	$\frac{1}{3}$	714	Connected with the Eamont by the river Lowther.

There are also many of smaller dimensions than the above, some of them locally distinguished as *tarns*: many of these are situated at great elevations among the mountains. Windermere is in some parts 240 feet deep, and exceeds any of the others in depth, excepting Wast Water, which is 270 feet in its deepest part. The greatest depth of Ulleswater is 210 feet.

Numerous waterfalls occur in the lake district: the principal are *Scale Force*, beside Crummock Water, 190 feet high; Barrow waterfall, 124 feet, and Lowdore waterfall, 100 feet, both on the east side of Derwent Water. The river Tees forms a fine waterfall (called *Mickle Force*, 69 ft. descent) in the upper part of its course; and there are also falls in the Ure and other rivers which have their origin in the high districts of the Pennine mountain-chain. Several small cascades occur in the hilly parts of Devonshire.

The largest lake in Wales is the *Lake of Bala*, or *Llyn Tegid*, out of which the river Dee flows: it is four miles long and about two-thirds of a mile broad, and has an average depth of 40 feet. *Llyn Conway*, the source of the river Conway, is one mile long by three-quarters of a mile broad. The *Lakes of Llanberris*, on the NW. side of the Snowdon group of mountains, consist of an upper and a lower lake, of which the former is one mile long and half a mile broad, and the latter one and a half mile long, but very narrow. The upper lake is more than 400 feet deep. The lakes of Llanberris are distinguished for the beauty of their scenery; their water flows by the river Seiont into the Menai Strait. Lakes are not generally numerous in the Welsh mountains, and most of those which occur are of small size.

The largest lake in South Wales is *Llyn Safaddu*, or *Brecknock Mere* (to the SE. of the town of Brecknock), about three miles long by one broad, and not more than 10 or 12 feet in average depth. It is situated in a comparatively low and level district.

Numerous waterfalls occur among the Welsh mountains, especially in the counties of Caernarvon, Merioneth, Montgomery, and Cardigan, which embrace the most varied and romantic scenery of the principality. The *Glassllyn Cascade*, among the Snowdon group, has a fall of 300 ft.; among the most celebrated, however, are the falls of the little river *Mynach* (which joins the stream of the Rheidol, falling into Cardigan Bay), at a spot called the Devil's Bridge, the scenery around which is in the highest degree attractive.

FORESTS. — England has few forests of any considerable extent in the present day, and the woodland districts bear but a small proportion to the whole extent of the country. The increasing demand for timber, and the growing extension of cultivation, have long since led to the disforestation of large tracts of country once thickly covered with wood.

The following are among the most extensive forests in the present day: —

New Forest, in Hampshire.	Salcey Forest, in Northamptonshire.
Alice Holt Forest, in Hampshire.	Sherwood Forest, in Nottinghamshire.
Woolmer Forest, in Hampshire.	Delamere Forest, in Cheshire.
Bere Forest, in Hampshire.	Hainault (or Waltham) Forest, in Essex.
Dean Forest, in Gloucestershire.	Epping Forest, in Essex.
Whittlebury Forest, in Northamptonshire.	Windsor Forest, in Berkshire.
Wychwood Forest, in Oxfordshire.	

Many tracts besides the above retain the name of Forest, though now in great measure cleared of timber, and in some instances wholly so.* Among such are: —

Rothbury Forest, in Northumberland.	Clun Forest, in Shropshire.
Inglewood Forest, in Cumberland.	Charnwood Forest, in Leicestershire.
Martindale Forest, in Westmoreland.	Forest of Wyre, in Worcester-shire.
Lune Forest, in Yorkshire.	Forest of Arden, in Warwickshire.
Stainmoor Forest, in Yorkshire.	Rockingham Forest, in Northamptonshire.
Bowland Forest, in Yorkshire.	Enfield Chase, in Middlesex.
Wyredale Forest, in Lancashire.	St. Leonard's Forest, in Sussex.
Needwood Forest, in Staffordshire.	Tilgate Forest, in Sussex.
Cannock Chase, in Staffordshire.	

* In the case of many of the tracts enumerated above, there is no doubt that the progress of enclosure and cultivation has gradually stripped of their timber extensive districts which, within a comparatively recent period, were covered with wood. But with several of the so-called "forests," this can hardly have been the case: as, for example, with Dartmoor, the high and exposed surface of which must (within the present geological epoch) always have been fatal to the growth of trees, as it is in the present day. The moor itself, however, is everywhere surrounded by wooded tracts, and we may suppose that, in this and similar instances, the appellation of "forest," applied by the earlier inhabitants of the adjacent district to the surrounding belt of forest country, became in time extended to the region which it enclosed.

Ashdown Forest, in Sussex.	Selwood Forest, in Wilts.
Savernake Forest, in Wiltshire.	Exmoor Forest, in Somerset and Devon.
Cranborne Chase, in Wilts and Dorset.	Dartmoor Forest, in Devon.

GEOLOGY AND MINERALS. — The mineral characteristics of various parts of England have been already noticed, in connection with their physical aspect. It is unnecessary for our purpose to do more than sketch the general outlines of its geology.

With few exceptions, the whole of England and Wales is composed, geologically speaking, of sedimentary or fossiliferous rocks. These are of various ages, and exhibit widely different mineral characters, as well as fossil remains of equal or even greater diversity. Speaking generally, the formations of later date (tertiary and recent) are found on the eastern side of the island, and the series of rocks succeed one another, in the descending order, from east to west. The rocks of the western coast belong principally to the older members of the stratified formations.

A section drawn from the coast of Suffolk to the Land's End exhibits in succession the following formations: —

- | | |
|---|-----------------------|
| 1. Drift, and various recent deposits | Post-tertiary. |
| 2. Crag (i.e. various shelly gravels and sands) | } Tertiary. |
| 3. London clay | |
| 4. Chalk | } Cretaceous. |
| 5. Green sand | |
| 6. Oolitic limestones and various clays | } Oolitic system. |
| 7. Lias limestone | |
| 8. New red sandstone | Triassic system. |
| 9. Carboniferous limestone | Carboniferous system. |
| 10. Old red sandstone | Devonian system. |
| 11. Granite and other rocks of igneous origin. | |

With the exception of the last-mentioned, all the above series of rocks are of aqueous deposit, and have imbedded within them the fossil remains of former life, vegetable and animal.

A line drawn across England in the direction of south-east and north-west, from Dungeness (Kent) to the Solway Firth, intersects the following formations:—

1. Drift, or post-tertiary (Kent: Romney Marsh).
2. Wealden sand (Kent and Sussex).
3. Chalk and other members of the cretaceous series (Kent: Surrey).
4. London clay (Surrey: Middlesex).
5. Chalk and green sand (Hertford: Buckingham).
6. Oolitic limestones and lias (Bedford: Northampton: Leicester).
7. New red sandstone (Leicester: Nottingham: Stafford: Cheshire).
8. Magnesian limestone (Nottingham: Derby).
9. Coal-measures (Nottingham: Derby: York: Lancashire).
10. Millstone-grit (Yorkshire).
11. Carboniferous limestone (Yorkshire: Lancashire).
12. Silurian rocks (Westmoreland: Cumberland).

The general sequence of the successive formations, it will be seen, is in either case the same. The *Wealden* group (which occurs principally within the south-eastern division of the island, interposed between the chalk ranges of the North and South Downs), the *magnesian limestone* (a narrow belt, confined to the northern and north-midland counties), and the *Silurian rocks* (most abundantly represented in Wales, whence their designation is derived, but also represented in the mountain group of Cumberland and Westmoreland), occurring in the case of the latter section, while they are wanting in the former instance.

It is only by study of the geological map of Britain that a clear conception of the distribution and relative area of the various strata can be obtained. The following summary may, however, be useful.

The Alluvial deposits occur chiefly along the estuaries of the Trent, Severn, Thames, and other rivers, and comprehend the district of the Fens, and the low tract of Brent Marsh, in Somersetshire.

The Crag and Freshwater formations occur on the coast

of Norfolk, Suffolk, and Essex, and in the northern part of the Isle of Wight.

The London and plastic Clays form two great basins, enclosed by the chalk formations: one of these extends from the south-western part of Berkshire eastward to the shores of Essex and Suffolk, including the lower Thames and its tributaries. The other occupies the southern part of Hampshire and portions of the adjacent counties on either hand. On the borders of Surrey and Berkshire, and also in some other places, the London clay is overlaid by a formation called the Bagshot sand, which consists of siliceous sand and sandstone.

The Cretaceous formations (chalk and green-sand) consist of two portions — the smaller of which embraces the Wolds of Yorkshire and Lincolnshire. The larger extends from the coast of Norfolk, in a SW. direction, across the basin of the Thames, to the shores of the English Channel, and in the neighbourhood of Salisbury Plain and the north of Hampshire throws off to the eastward the two great lines of the North and South Downs. It also extends through the centre of the Isle of Wight. The chalk is the most extensive of the British strata, and occupies portions of all the eastern, and many of the southern and south-midland counties.

The Wealden formation is chiefly confined to the district of the Weald, and to a small portion of the Isle of Purbeck and the southern shores of the Isle of Wight.

The Oolitic formations form a broad belt which stretches in a general NE. and SW. direction through the central parts of England; beginning on the coast of Yorkshire, they extend thence, through the midland counties, to the shores of the Channel in the western portion of Dorsetshire. The *lias* rocks are throughout situated to the westward of the proper oolites.

The New Red Sandstone commences on the coast of Durham, and extends over the lower part of the Tees basin, and along the course of the Swale, the Yorkshire

Ouse, and the river Trent : it occupies the greater part of the Trent basin, and stretches thence into the Cheshire plain, embracing the valley of the river Weaver ; some smaller and partly detached portions extend southward to the shores of Devonshire, near the mouth of the Ex. There is also a considerable detached portion which embraces the valley of the river Eden and the shores of the Solway Firth.

The Magnesian Limestone is a narrow belt which stretches through the county of York, and along the borders of Nottingham and Derby ; there is also a detached portion in the eastern part of Durham.

The Carboniferous formations occupy a great part of the northern counties, embracing the whole region of the Pennine chain, and the western portion of the York plain, besides numerous detached portions in North and South Wales, and several of the midland, western, and southern counties. (The coal-fields are subsequently enumerated.)

The Devonian rocks (including the old red sandstone) are extensively developed in the west and south-west of England, and in the counties of Brecon, Caermarthen, and Pembroke, in South Wales.

The Silurian and Cambrian rocks occupy the greater part of Wales, and also the higher regions of the Cumbrian mountain group. They likewise form the principal rock in the Isle of Man.

Granite, porphyry, serpentine, and other rocks of plutonic or igneous origin, are sparingly developed in England and Wales. They cover, however, large spaces in the northern division of the island. In England, granite occurs most extensively within the counties of Devon and Cornwall.

Of the mineral productions of Britain, *coal* is unquestionably the most important. Seventeen distinct coal-fields are found within England and Wales, all of them worked to more or less advantage. These are —

	Area	
1. Anglesey (North Wales)	9	square miles
2. Bristol and Somerset	45	„ „
3. Coalbrook Dale (Shropshire, adjoining the Severn)	28	„ „
4. Cumberland, or Whitehaven	25	„ „
5. Denbighshire (North Wales)	47	„ „
6. Derby and York (West Riding)	760	„ „
7. Durham and Northumberland (Newcastle)	460	„ „
8. Flintshire (North Wales)	35	„ „
9. Forest of Dean (Gloucestershire, west of the Severn)	34	„ „
10. Forest of Wyre (Worcestershire)		„ „
11. Lancashire (South Lancashire and Cheshire)	217	„ „
12. Leicestershire (near Ashby-de-la-Zouch)	15	„ „
13. North Staffordshire (Pottery district)	75	„ „
14. South Staffordshire (Birmingham and Wolverhampton)	93	„ „
15. Shrewsbury (Shropshire)		„ „
16. South Wales (Monmouth to Pembroke)	906	„ „
17. Warwickshire (near Coventry)	30	„ „
Total area		2779 „ „

The coal-fields of South Wales, Lancashire, Derby and York, Durham and Northumberland, and South Staffordshire, are by much the most productive of the above.

The value of the coal-fields of Britain is greatly enhanced by the fact that iron ore occurs nearly everywhere in close proximity to the coal-measures. Coal, iron ore, and lime—the last necessary as a flux or medium for the purposes of the smelter—are placed by nature in juxtaposition, and the processes of man's industry thereby greatly facilitated.

Iron.—The localities in which iron is most extensively made are South Wales, Staffordshire, Shropshire, Yorkshire, Durham, Derbyshire, North Wales, Cumberland, and the south-east portion of Northumberland. Of the total quantity produced, the South Wales coal-field supplies above a third. Iron-sand is abundant in the weald of

Sussex and Kent, and iron was formerly extensively worked in that district; but the superior advantages possessed by the coal districts, in the immediate proximity of the fuel required for smelting the ore, have caused the iron-works in this locality to be long since abandoned.

Copper is most abundant in Cornwall, and also occurs in Devonshire, the Isle of Anglesey, and Staffordshire. All the Cornish copper ore is carried to Swansea to be smelted.

Lead occurs chiefly in Derbyshire, Northumberland, Cumberland, North Wales (in the counties of Flint and Denbigh), in South Wales, and in Devonshire. *Zinc* is also obtained from the sulphuret of zinc associated with the lead, but is most extensively obtained from calamine, its proper ore, mines of which are worked in Derbyshire.

Tin occurs almost exclusively in Cornwall, where this metal has been worked from the earliest ages. Tin mines, properly so called, are found only in Cornwall, the greater number of them within the south-western portion of the county, to the west and south of Truro. Stream-tin—i. e. tin obtained by washings in the beds of streams, in which particles of the metal occur, intermixed with the alluvium—is derived also from Cornwall, and from a few localities elsewhere, chiefly within South Wales (Glamorganshire) and the adjacent county of Monmouth. The tin thus obtained is known as grain tin. The principal stream-works, however, are situated on or near the south coast of Cornwall, and the greater number within the parishes of St. Austell and Luxullian. The valleys of Dartmoor, long deserted by the miner, are everywhere scored by the remains of ancient stream-works.

A small quantity of *silver*, chiefly extracted from the lead ore, is found in the counties of Cumberland, Derby, and Flint: its produce is, however, too small to be of any commercial importance.

Salt occurs chiefly in the county of Cheshire, in the valley of the river Weaver, already mentioned. Brine-springs also occur at Droitwich, in Worcestershire, and at

some places in the county of Durham. All of these are within the new red sandstone formation.

Limestone is abundant in almost every part of England and Wales. The best kinds of *building-stone* are obtained from a narrow belt of the magnesian limestone formation, which extends from north to south through the counties of York, Nottingham, and Derby, and is quarried in numerous places. Stone of excellent quality is also worked in the Isle of Portland (in the south of Dorsetshire); the strata here consist of the various members of the oolitic series, the different beds of which are extensively quarried in many other localities. *Slate* is chiefly obtained in the regions of the Cumbrian and Welsh mountains.

Mineral Springs.—Springs impregnated with saline compounds occur at Epsom (in the county of *Surrey*); at Cheltenham, and Clifton, near Bristol (in *Gloucestershire*); at Bath (*Somerset*); Leamington (*Warwick*); and Buxton and Matlock (both in *Derbyshire*).

Chalybeate waters, that is, springs impregnated with iron, are found at Tunbridge-Wells (*Kent*), Brighton (*Sussex*), Cheltenham (*Gloucester*), Great Malvern (*Worcester*), Harrogate and Scarborough (*Yorkshire*), Hartlepool (*Durham*), Aberystwith (*Cardiganshire*), and elsewhere. The waters at Harrogate, Cheltenham, and Leamington, are also partly sulphureous.

The only warm springs which occur in England are at Bath, Clifton (near Bristol); and at Buxton, Bakewell, Stoney Middleton, and Matlock, all in *Derbyshire*. The highest temperature of the Bath waters is 117° , of those at Clifton 74° , Buxton 82° , and Matlock about 69° . Near Cardiff, in the county of Glamorgan (South Wales), is a warm spring, the temperature of which is 21° above that of the place, and which contains saline ingredients.

CHAPTER III.

ROMAN BRITAIN.

THE Romans, under Julius Cæsar, first visited Britain in the year 55 B.C. The Roman conquest of Britain commenced under the Emperor Claudius, A.D. 43, and the Romans remained masters of the larger part of the island during nearly the ensuing four centuries, until 420 A.D., when the soldiers of Rome were finally withdrawn and the Britons left to themselves. Roman sovereignty in Britain lasted therefore during a period much longer than has elapsed from the time of the Protestant Reformation to the present day. During this lengthened term of dominion in our island the Romans constructed roads, built cities, and erected many public and private works (military and otherwise), the remains of which, even at the present day, attest their skill and power. A brief notice of some of those points in which the geography of Britain during the Roman period differed from its geography in the present day will not be without utility to the student of history and geography alike.

COAST-LINE.—The coast-line of Britain has undoubtedly undergone considerable alteration since the time when the legions of Rome were stationed in the island. This alteration has been due to natural causes, such as are for the most part still in action. The sea, under the influence of tides and currents, combined with prevailing winds, continually destroys portions of the coast, and with the material carried away from one district, tends to fill up estuaries and harbours, adding to the extent of land elsewhere. These changes have been most extensive upon the eastern and south-eastern portions of our shores, especially along

the low coasts of Holderness (in the east riding of Yorkshire), and the counties of Norfolk and Suffolk, with the north shore of Kent. Almost throughout this line of coast the sea has made inroads upon the land, so that in numerous instances places which were once of importance have been destroyed by the ravages of the sea, or their sites removed of necessity farther inland. In other parts of the same tract of coast there has been a gain of land, though perhaps not to a corresponding extent. In the case of the low tract which adjoins the Wash,* however, an extensive area of country has, within a comparatively recent period, been reclaimed by human industry. During Roman times, and for long after, a succession of swamps and morasses stretched far up into the interior, above the present head of the Wash, dividing in great measure the modern counties of Norfolk and Suffolk from the rest of the island. Even down to the period of Norman rule, portions of the tract of country now known as the Isle of Ely (Cambridgeshire) were so surrounded by swamps and marshes as to afford an almost impregnable place of refuge to an invader.

The shores of Kent, Sussex, Hampshire, and Dorset, have witnessed similar changes. Throughout the chief part of this range of coast, the falling of cliffs, owing to the erosive action of the water at their base, assisted by the agency of land-springs and rains, has caused the shore-line to recede inland. Tracts of considerable extent have been washed away during storms, and the waters of the sea left flowing permanently over districts which were once inhabited by man.†

* The tract of country described as the Fen District (p. 39).

† A striking example of this is furnished in the instance of the island of Hayling, on the south coast of Hampshire. The site of the most ancient church of Hayling (dating probably from the middle of the eleventh century) is now marked by the "Church Rocks," which lie in the sea at the distance of above half a mile to the south of the present coast-line. This church is said to have stood originally in the centre of the island, which must have been of greatly larger dimensions than it now is. It is probable that the south shore of the island then reached to

The soft sands and clays, or chalk cliffs, which line so large a portion of the eastern and south-eastern shores of Britain, have naturally occasioned such changes to be of more frequent occurrence, and of more extensive character than elsewhere. The shores of Devon and Cornwall, as well as those of great part of the western side of the island in general, are for the most part composed of harder rocks, which yield less readily to the action of the waves.

In Roman times, and for long afterwards, vast portions of Britain were covered with dense forests. These woods gave shelter to the native inhabitants of the island, when compelled to seek refuge from the arms of an invader. It was within their sheltered enclosure that the towns of the aboriginal tribes who possessed the island were for the most part situated. "The Britons (says Cæsar) call by the

within about two miles of the spot now occupied by the Nab Light, *i. e.* to less than three miles distant from the Isle of Wight. The ravages of the sea must in this case have swept away a space of not less than nine miles in length by about five in breadth. These destructive inroads occurred at various periods from the thirteenth century downwards.—*Topographical Account of the Hundred of Bosmere*, by Chas. J. Longcroft. London, 1857.

Changes of an opposite kind have occurred upon other portions of the southern coast-line. The tract which contains the towns of Rye and Winchelsea — once flourishing ports, and members of the corporation of the Cinque Ports — offers an eminent example of a gain of land which has been long in progress, and still continues. Rye, which once stood on the coast, is now nearly two miles inland, its harbour (which only admits small vessels) being formed by the mouth of the river Rother, which, previously to the great storm and inundation in the reign of Henry III. (Oct. 1, 1250) had a totally different outlet. The old town of Winchelsea was in great part destroyed by the sea on that occasion, and suffered complete destruction some years later, in 1287. In the interim, the inhabitants had built a new town — the present Winchelsea, on a site adjoining the sea, and granted for the purpose by Edward I. This second Winchelsea speedily grew into importance, and became a flourishing port; but its prosperity was destroyed by an evil the reverse of that from which its predecessor had suffered. The sea gradually receded from the town, as its harbour and estuary became choked with sand and beach, and the place has long since become a mere village. The site of Winchelsea is now above a mile and a quarter distant from the sea, and the spot where Blake anchored his fleet in 1652 is upwards of a mile inland. An extensive estuary formerly occupied the tract of ground lying immediately to the northward of the present Winchelsea. Similarly, a large portion of Romney marsh, to the north of the town of New Romney, and west of Hythe, was in Saxon times an arm of the sea.

name of a town a place in the fastnesses of the woods surrounded by a mound and trench, and calculated to afford them a retreat and protection from hostile invasion." It was in such a locality that the town of Cassivelaunus, the British chieftain, was situated, in a spot "surrounded by woods and marshes." These forests, long since cleared away, and of which but a few scattered vestiges now remain, gave shelter not merely to the native tribes, but to numerous wild animals, now exterminated from our soil. The wolf, the wild-boar, and the bear, especially the two former, were among the common tenants of the British woods. The fox (now carefully preserved by artificial means), the wild-cat (all but extinct in South Britain), with the otter and numerous other wild animals, were then abundant. The beaver was found in every watered valley.* The wild deer were common in every part of the island. The eagle, now only seen within the farthest recesses of the Scotch highlands, frequented the fens of the eastern coast.

EARLY INHABITANTS.—The earliest references to Britain in the pages of history occur in the writings of Herodotus, the Greek historian, who flourished in the middle of the fifth century before Christ. Herodotus says (book iii.) "Of the extremities of Europe towards the west I cannot speak with certainty . . . nor am I acquainted with the islands Cassiterides, from which tin is brought to us." By the Cassiterides, or 'tin-producing' islands, the historian probably means the south-western shores of Britain, which had almost certainly been visited by the traders of Tyre from a much earlier period, for the sake of their characteristic mineral produce.† It is not a little

* The Teify, in South Wales, was the last amongst the rivers of south Britain in which the beaver was found.—(See *ante*, p. 14.)

† The only other mountain region of Europe which furnishes tin is the north-western province of Spain—Galicia. The Scilly Islands, which have been sometimes regarded as representing the Cassiterides, considered as distinct from Britain itself, contain few traces of any tin-workings—none that would account for any considerable supply having ever been

interesting to find that the earliest relationship between the people of the civilised world and the aboriginal inhabitants of the British shores was due to the mineral wealth of our island, a source akin to that which forms the basis of the industrial and commercial wealth of Britain in the present day. Aristotle, a century later, makes mention of two large islands called Albion and Ierne, or Great Britain and Ireland. The name of Albion was undoubtedly derived from the aspect of the white cliffs which line our south-eastern shores, and are conspicuous from a distance.

At the time when the Romans first became masters of Britain the island was inhabited by thirty-five different tribes, or rather, perhaps, nations. The names of many of these tribes have a Celtic element of language in them; a circumstance which supports the presumption, derived from other sources, that the aboriginal inhabitants of the island were of Celtic origin; of the same stock, in fact, as the inhabitants

drawn thence. Diodorus Siculus, however, speaks of the tin which was derived from the "islands called Cassiterides, lying off Iberia, in the ocean," as well as that procured from the promontory of Belerium (the Land's End), and Strabo distinguishes clearly between the Cassiterides and the Britannic Islands. But the ideas of the ancient writers as to the localities which furnished the various articles of commerce were often vague and confused, and derived their colouring from the medium through which the goods themselves finally reached their destined market. The traffic carried on, through the agency of the Arab merchant, with India and Eastern Africa, furnishes an example of this. A part of Arabia itself was regarded as supplying the spices and balms which the caravan-traders of that country really obtained from other lands, and was hence endowed with the supposed attributes of a region abounding in native wealth. Modern exploration has shown that "Araby the blest" has no existence, excepting in the imagination of the poets.

The tin which reached, in ancient times, the shores of the Mediterranean, was transmitted by two distinct lines of route. One of these, in which the Phœnicians were the agents of the traffic, traversed the sea lying between the western extremity of Britain and the coast of Spain, with reference to which latter country both Strabo and Diodorus describe the position of the British shores. The other route lay through Gaul, to which the tin was brought from those parts of the coast of Britain which lay nearest to that country, and whither it had been conveyed by the Britons themselves. It has been suggested that the metal obtained through the former of these routes might not unnaturally have been regarded as the produce of the Cassiterides, while that supplied through the other channel was looked on as derived from Britain itself—though both were in reality obtained from the same quarter.—See article "Scilly Islands" in *Imperial Cyclopædia of Geography*.

of the nearest part of the opposite continent. Of these British tribes seventeen possessed the country lying to the south of the Solway and the Tyne (along which the more southwardly of the Roman walls was afterwards drawn), five lay between that line and the isthmus of the Clyde and Forth, and thirteen were dispersed over the region lying to the north of the last-named division. We owe the enumeration of these British nations to Ptolemy, the geographer of Alexandria, who wrote in the early part of the second century of the Christian era.

The British nations enumerated by Ptolemy are :—

To the southward of the line between the Tyne and the Solway :—

- | | |
|---|---|
| 1. CANTII,—dwelling in the county of Kent | |
| 2. REGNI | „ „ Surrey and Sussex |
| 3. BELGÆ | „ „ Hants, Wilts, and Somerset |
| 4. ATREBATES | „ „ Berkshire and North Wilts |
| 5. DUROTRIGES | „ „ Dorset |
| 6. DAMNONII | „ „ from Somerset to the extremity of Cornwall |
| 7. TRINOBANTES | „ „ Middlesex and Essex |
| 8. ICENI | „ „ Norfolk, Suffolk, Cambridge, and Huntingdon |
| 9. CORITAVI | „ „ Northampton, Leicester, Rutland, Derby, Nottingham, and Lincoln |
| 10. CATYEUCLANI | „ „ Buckingham, Bedford, and Hertford |
| 11. DOBUNI | „ „ Gloucester and Oxford |
| 12. CORNAVII | „ „ Warwick, Worcester, Stafford, and Chester |
| 13. BRIGANTES | „ „ York, Lancaster, Westmoreland, Cumberland, and Durham |
| 14. PARISI | „ „ East Riding of York |
| 15. ORDOVICES | „ „ North Wales and part of Shropshire |

16. SILURES, dwelling in part of South Wales, with Monmouth and Hereford
17. DEMETÆ „ „ South-west of Wales (Pembroke, Caermarthen, and Cardigan)

From the Solway to the isthmus of the Clyde and Forth:—

18. OTADENI—dwelling along the coast, from the Tyne northwards to the Forth (the modern Northumberland, Berwick, Haddington, and part of Roxburgh)
19. GADENI „ „ inland from the last-mentioned (parts of Northumberland and Cumberland, with Roxburgh, Selkirk, and Peebles)
20. SELGOVÆ—dwelling in Dumfries, Kirkcudbright, and part of Lanark
21. NOVANTÆ „ „ Wigtown and Ayr
22. DAMNII „ „ Lanark, Renfrew, part of Stirling, and the west of Fife

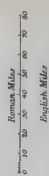
Northward from the isthmus of the Clyde and Forth:—

23. VENICONTES—dwelling in parts of Perth, Forfar, and Kincardine
24. TEXALI „ „ the eastern part of Aberdeenshire
25. VACOMAGI „ „ Banff, Elgin, Nairn, and part of Inverness
26. CALEDONII „ „ Inverness, with parts of Ross and Argyle
27. EPIDII „ „ Cantire and the adjoining coast of Argyle
28. CERONES „ „ western part of Inverness, and north of Argyle
29. CREONES „ „ western part of Ross

BRITAIN

DURING

THE ROMAN PERIOD



1. BRITANNIA PRIMA
2. BRITANNIA SECUNDA
3. FLAVIA CAESARIENSIS
4. MAXIMA CAESARIENSIS
5. VALENTIA



30. CANTÆ, dwelling in the east of Ross and Cromarty (i.e. the peninsular country between the Firths of Moray and Dornoch)
31. LOGI ,, ,, south-east part of Sutherland
32. MERT.E ,, ,, middle part of Sutherland
33. CARNONACE ,, western part of Sutherland
34. CARENI ,, ,, north-eastern part of Sutherland
35. CORNABII ,, ,, Caithness

To the above list of British nations should be added the names of the HORESTI and the ATTACOTTI; the former dwelling along the lower Tay (Perth, Forfar, and part of Fife), the latter within the mountain region adjacent to the upper part of Loch Fyne.*

It will not be supposed that the limits of the various British nations named in the above list coincided precisely with those of the modern counties named beside each. But there is no reason to doubt the general correctness of the localities assigned to them. The Brigantes, a powerful nation, among whom several smaller tribes are believed to have been comprehended, occupied, it would seem, a larger territory than any other, their dominion stretching entirely across the island from sea to sea.

We should not be justified in assuming that the British nations whom Ptolemy enumerates were necessarily all of one stock; still less that they exhibited uniformity of customs and manners, or even precise identity of language. Such identity seldom, if ever, belongs, at an early period of their history, to the scattered population of an extensive country, however it may become the after-growth of their advancing civilisation. The people who occupied the south-western peninsula (Cornwall and Devon), and those dwelling in the extreme south-east (Kent), were probably

* These two nations are not included in Ptolemy's list. The Horesti are mentioned by Tacitus, in the narration of Agricola's exploits. The Attacotti are referred to, in more than one passage, by Ammianus Marcellinus, who wrote in the latter part of the fourth century.

more advanced in civilisation than the inhabitants of the inland districts.*

THE ROMAN CONQUEST.—Nothing could be more natural, or in the ordinary course of events, than that when the legions of Rome, under Julius Cæsar, had overrun Gaul, the shores of Britain should become the next object of attack on the part of their victorious commander. There already existed commercial intercourse between the maritime populations of Gaul and Britain—for the most part of the same race—and there were also political ties which to some extent linked the inhabitants of the two countries to one another. In the summer of the year 55 B.C., the Roman general determined to cross the narrow sea which divides the coasts of Gaul from those of Britain—rendered conspicuous from the opposite side of the channel, in the case of each, from the chalk cliffs by which they are respectively lined.

* “We should probably form (says Mr. Wright) the best appreciation of the condition of our Celtic forefathers before their conquest by the Romans, by comparing them with the septs or clans in Ireland and the Highlands of Scotland in the twelfth and thirteenth centuries. Each chief exercised the same independent and unrestrained authority over his clan, and the disunion of the whole was probably increased by difference of language and race. There seems to be no reason for assuming that the different tribes were accustomed to unite under one head (or, as he has been termed, Pendragon) in cases of emergency. On the contrary, we observe, as far as their history is known, that they never acted together, unless when their union was caused by conquest, or by the alliance of one or two neighbouring, and perhaps kindred, tribes. The statement that they went naked, and that they painted their bodies, can only have been true of some of the most barbarous tribes. We have no very distinct information on the clothes of the Britons, except that we know from the earlier Roman writers that they wore breeches (*bracæ*) like the Gauls and Germans. They are described as being in person taller than the average height of the Romans. The brief account of Tacitus confirms the views already stated as to the difference of races which peopled the island. He imagined that the red hair and masculine forms of the Caledonians bespoke a German origin; that the Silures, by their complexions (*colorati vultus*) and curly hair, were a colony of the Iberi of Spain; and that the tribes who inhabited the coasts came from Gaul; and one of the arguments he adduces for believing that the maritime tribes were of Gallic origin, the similarity of language (*sermo haud multum diversus*), leads us to believe that the language of these tribes was totally different from that of the Silures, or that of the Caledonians, and of the tribes of the interior.”—*The Celt, the Roman, and the Saxon*.

Cæsar sailed, on the occasion of his first descent on the British shores, from a port in the country of the Morini (a Gallic nation) whence there was the shortest passage to Britain. In his second expedition, he mentions *Portus Itius* as his place of departure, because he had ascertained that port to afford the most convenient place of passage to the island. We may therefore assume that the same port of embarkation was used upon both occasions. *Portus Itius* corresponds probably to the modern Witsand, or Wissant, situated a few miles west of Calais, and a short distance to the east of Cape Grisnez. Cæsar embarked his infantry (belonging to the tenth and the seventh legions) on board of eighty vessels, leaving the cavalry to follow in eighteen other ships. The Roman fleet reached the British coasts at the hour of ten in the forenoon, and, after a spirited resistance on the part of the natives, who were drawn up on the shore to oppose them, succeeded in effecting a landing.

The place of Cæsar's first landing in Britain was probably in the neighbourhood of Deal or Sandwich — at any rate, on some part of the east coast of Kent. It is of course impossible to decide with any certainty on the precise spot.* The Romans did not advance far into the interior on this occasion. Stormy weather had delayed the sailing of their cavalry, and the Roman ships, drawn up on the shore, had sustained some injury from a like cause. Anxious to return to Gaul before the setting in of the equinoctial gales, Cæsar did not protract his stay in the territory of the brave and fierce islanders, but, taking with him hostages for their adherence to the submission they had been compelled to promise, re-crossed the channel.

* See on this subject the Note in Long's "Cæsar," and the article on *Portus Itius* in Smith's "Dictionary of Greek and Roman Geography." If not correspondent to Witsand, *Portus Itius* may with most probability be identified with Boulogne (*Gesoriacum*), afterwards a frequent place of embarkation for Britain. A theory suggested by the learned Astronomer Royal makes the mouth of the Somme the place of Cæsar's embarkation, and the neighbourhood of Pevensey that of his landing. The arguments used in its behalf, however, fail to convince the present writer of its accordancy, either with the narrative of Cæsar, or with the probabilities of the case.

In the following year (B.C. 54), Cæsar visited Britain for the second time. He sailed from Portus Itius, and landed on or near the same spot as before. On this occasion the Romans penetrated a considerable distance inland. They first crossed a river on the banks of which the Britons were posted—probably the Stour. Subsequently, following the retreating enemy, whom they had defeated in an important engagement, the Romans advanced to the banks of the Thames, which they crossed, and thence penetrated to the capital of Cassivelaunus, the British chieftain, who had been placed at the head of the confederate tribes in the south-eastern portion of the island.

The place where Cæsar crossed the Thames is believed to have been in the neighbourhood of Chertsey, in Surrey, where the name of Coway Stakes is regarded as commemorative of the stakes which (as Cæsar tells us) the Britons had driven into the bed of the river, to prevent the Romans from effecting a passage across it. The capital of Cassivelaunus may perhaps have coincided with the site of the town of St. Albans, which, under the name of *Verulamium*, was an important Roman station.*

Cæsar mentions, besides the *Cantii* (or people of Kent), and the *Trinobantes* (the inhabitants of Middlesex and Essex), the following British tribes or nations—the Cenimagni, the Segontiaci, the Ancalites, the Bibroci, and the Cassi. It is not easy to identify these with the names of the nations given in Ptolemy's list. We may assume that all of them lay in comparative proximity to the Trinobantes, and the Cassi are supposed to have been the same as the Ca-tyeuchlani of Ptolemy.

After Cæsar's second visit to Britain, the Romans left the island undisturbed for nearly a century. The geographer Strabo (who wrote about 15 A.D.), and the historian Diodorus Siculus, both supply some information respecting the condition of Britons at this early period.

* The names of Cashiobury Park, near Watford, and of the hundred of Cassio, one of the hundreds into which the county of Hertford is divided, are regarded as preserving the name of the British chieftain.

These authors describe the island as being for the most part flat and woody, having, however, many strong places on hills. The produce of Britain consisted of corn and cattle, gold, silver, and iron, with skins, slaves, and dogs of a superior breed for the chase. The British dogs were widely celebrated, and were so strong and fierce that the Gauls are said to have used them in war. The aboriginal Britons are described as being tall of stature and corpulent, but not well made. Although, according to Strabo, they used milk in great abundance, yet they were not acquainted with the art of making cheese, and were total strangers to gardening and agriculture. Diodorus, however, describes them as practising agriculture, gathering the corn and storing it up in the stalk in thatched houses. Their dwellings were mere temporary erections, formed in the forests by enclosing a space with felled trees, within which they made huts of reeds and logs, and sheds for their cattle.

The tin which had from an early period been exported from Britain, had helped to raise the social condition of the people of the south-western peninsula above that of the islanders in general. We are told by Strabo that 'the inhabitants of Britain who live near the Belerian promontory (the Land's End), are peculiarly hospitable, and, from the great resort of foreigners, more polished in manners. They prepare the tin, and show much skill in working the earth which produces it. This being of a stony nature, and having earthy veins in every direction, they work their way into these veins, and so by means of water separate the fragments. These they bruise into small pieces, and convey them to an island which lies in front of Britain, called Ictis; for at the great ebb of the tide the channel becomes dry, and they carry over the tin in large quantities on wagons. From Ictis the tin is purchased by native merchants, and transported to Gaul.' Ivory bracelets, necklaces, vessels of glass, and similar small wares, were imported (Strabo tells us) into Britain from Gaul.

It is clear, from these and other accounts, that the people of Britain, at this early period, were not all in the same stage of social advance, nor characterised by identity of usage and manner. The people of the south-western and south-eastern coasts, at any rate — perhaps the maritime tribes in general — had made greater advance towards civilisation than the tribes of the interior. They had permanent habitations, though of a rude kind, while the people of the interior, devoted chiefly to pastoral occupations, wandered through the woods, throwing up merely temporary abodes for the shelter of themselves and their cattle.

The Roman conquest of Britain, with a view to permanent occupation, commenced under the emperor Claudius, A.D. 43, and within less than forty years from that date the Roman legions had overrun the whole island, reducing its people to unconditional submission. The general course of the Roman conquest, which we need not follow in detail, was this:—Aulus Plautius landed with an army of 50,000 men, and marching through the southern parts of the island, speedily advanced beyond the Severn. The natives, who at first retreated to their woods and marshes, were defeated whenever they ventured to leave their places of refuge, and encounter the disciplined valour of the Roman troops. Vespasian,* the lieutenant of Plautius, with his son Titus, subdued the people of the south coast and the adjacent Isle of Wight (*Vectis*), fighting numerous engagements, and capturing as many as twenty British cities, or fortified posts.

A later commander, Ostorius Scapula (A.D. 50), erected a line of forts between the rivers Nen and Severn (*Antona* and *Sabrina*), to protect the Roman territory, which already embraced all the country lying east and south of those rivers. The Iceni, who had revolted against Roman rule, were reduced to obedience, and the inhabitants of the wooded districts to the north and west made to feel the

* The same who afterwards became Emperor of Rome.

power of Rome. Ostorius made *Camulodunum* (Colchester) the head-quarters of his army. He subsequently marched against the people of North Wales (the *Ordovices*) and defeated their heroic leader, Caractacus, in the strong position within which he had entrenched himself.

The stronghold of Caractacus on this occasion has been supposed to be marked by *Caer-Caradoc*, a lofty eminence in the S.W. corner of Shropshire, situated a few miles N. of the river Teme, and on the sides of which there are traces of entrenchments and other earthworks. This, however, is mere conjecture. The name of *Caer-Caradoc* occurs in other parts of the same county, as in the neighbourhood of Church Stretton, eleven miles S. of Shrewsbury.*

Suetonius Paullinus (A.D. 59-61) carried the Roman arms to the farther border of North Wales, and, crossing the Menai Strait, subdued the island of Anglesey (*Mona* of Tacitus),† the stronghold of the Druids. Recalled from his pursuit of this conquest by the unlooked-for and alarming insurrection of the Iceni, Suetonius afterwards fought a great battle with that people and their allies, under the command of their queen, Boadicea, whose unworthy treatment by the subordinate officers of Rome had occasioned, and justified, the revolt. In this battle, the site of which is unknown, the arms of Rome achieved a decisive triumph, and rebellion against the Roman power was completely crushed, at least for a time.

Julius Agricola (the father-in-law of the historian Tacitus), who held the government of Britain during the years 78-84, carried the Roman arms much farther to the north than they had previously been advanced, and completed the subjugation of the island — at least, of all that portion of it which became a part of the Roman dominions — that is, as far as the line of the Forth and the Clyde. Agricola, besides, introduced into Britain the

* The *Caer-Caradoc* near Church Stretton forms part of the range of the *Caradoc Hills*. See *ante*, p. 32.

† The *Mona* of Cæsar is the Isle of Man.

manners, dress, arts, language, and general civilisation of Rome.

One of the first exploits of Agricola was the conquest of the Ordovices, or people of North Wales, and the reduction of the island of Mona (Anglesey), which his predecessor had been obliged to leave uncompleted. The Ordovices were defeated in a great battle, fought, there is reason to believe, amongst the hills of Flintshire. Thence the Roman general advanced to the shore of the Menai Strait, the waters of which presented no obstacle to the accomplishment of his design, though he was unprovided with any vessels in which to transport his army across it. A select body of the Roman auxiliaries, mounted on horseback, and freed from the incumbrances of baggage, taking advantage of the places where the strait is fordable, or nearly so, when the tide is out, crossed the channel, partly by swimming their horses. The native people of the island, struck with terror at the mode of attack, yielded themselves to the mercy of the Roman leader, and surrendered the island.*

In the course of the year 80, Agricola, then engaged in his third campaign, invaded and reduced the lowland portion of Scotland, and carried Roman dominion as far north as the course of the river Tay (*Taus*). In the succeeding summer (his fourth campaign in Britain), the same able commander erected a chain of forts between the estuaries of the Clyde and Forth (*Clota* and *Bodotria*). This was the line afterwards known as the wall of Antoninus (*Vallum Antonini*), the farthest limit of Roman Britain. In his sixth campaign, A.D. 83, Agricola advanced beyond this line, in order to subdue the nations dwelling to the

* Tacitus: Agricola, xviii. A spot amongst the hills of Flintshire, in the neighbourhood of Newmarket (about 4 miles E. of the town of Rhyddlan, on the river Clwyd), is said to bear the name of Bwlch Agricola, or the Pass of Agricola. It may safely be assumed that the advance of the Roman general would lead him through this region, in the heart of the territory occupied by the Ordovices, and, indeed, the only part of North Wales capable of being penetrated with safety by a hostile force.

northward of the firth of Forth (*Bodotria Æstuarium*). The Roman fleet was at the same time directed to cross the firth, and cooperate with the land forces. In the following year (84), a still further advance was made. The legions, led by Agricola himself, marched northward to the foot of the Grampians (*Mons Grampius*), and gained a decisive victory over the fierce Caledonian tribes, under their chieftain Galgacus, while the Roman fleet sailed round the northern extremity of the island, and, returning to their previous station by way of the eastern coast, made the complete circuit of Britain.*

The moor of Ardoch, in Perthshire, near the head of Strathallan, is believed by many writers to represent the place where the great battle between Agricola and the Caledonian leader was fought. There are found here, immediately adjacent to the village of Ardoch, and beside the left bank of the little river Knaig, a tributary of the Allan, the remains of a large Roman military station, with three camps (probably constructed for a temporary purpose) in its close vicinity. Two other Roman stations, of which the remains are in less perfect preservation, occur within the same part of the country, at no great distance: one of them is beside Dealgin Ross, near the south bank of the river Earn, between 7 and 8 miles N.W. of Ardoch; the other is at Strageth, or Stratgeth, six miles N.N.E. of Ardoch, and also on the south bank of the Earn. Other Roman works are found in the neighbourhood.

There is, however, much difficulty in fixing the exact localities of Agricola's positions, and in determining his line of march in his sixth and seventh campaigns. Some antiquaries regard the station at Ardoch, or even the more northwardly station at Dealgin Ross, as the scene of the night attack upon the ninth legion, mentioned as occurring during the sixth year's campaign. On this supposition, the site of the battle with Galgacus, in the

* Tacitus: Agricola, xxv.—xxxviii.

following year, must be looked for farther to the northward.* It was through the plain of Strathmore that the northwardly march of the Roman general, after leaving the neighbourhood of the Firth of Forth, would, from the nature of the country, be naturally directed. The lines of communication between lowland Scotland and the more northwardly portion of the country have necessarily followed this course, from the earliest times to the present day. There are remains of numerous Roman camps in various parts of Forfarshire, some of them of large size. They seem, indeed, to have formed a chain of military posts, reaching across the whole extent of that county, from its south-western to its north-eastern extremity.†

* General Roy (Military Antiquities of the Romans in Britain: London, fol. 1793) thinks the scene of the latter event is to be looked for probably about Fettercairn, or Monboddie (in Kincardineshire), 'or perhaps even nearer to Stonehaven,' — at any rate, somewhere towards the eastern extremity of the Grampians, and within the northwardly and narrower portion of the great plain or strath.

† Those writers who adopt Ardoch as the scene of the final engagement with Galgacus find the locality of the night attack recorded in connection with the campaign of the preceding year at the remains of a Roman camp situated near the little stream of the Ore, two miles to the southward of Loch Leven, in Fifeshire.

The difficulty of assigning precise localities to the movements of the Roman commander is rendered greater, and the conclusions generally arrived at made the less satisfactory, by taking into account the agency of geological changes that have probably been in operation during the lapse of time between the date of the Roman conquest of Britain and the present day. It is far from certain that the coast-line of Britain exhibits the same contour now that it did eighteen centuries since. Indeed in many districts, as round the shores of the Wash, and at the estuaries of the Thames, the Humber, and elsewhere, there is no doubt that very considerable changes in the contact and relative extent of land and sea have taken place. Like changes, there is reason to think, have occurred on the coasts of North Britain, and perhaps even to a more material extent. The raised beaches which are met with, at elevations of from 20 to 30 feet above the present high-water mark, indicate a gradual upheaval of the land above its former level, and the remains of Roman and other works found embedded in the soil, in connection with these elevated margins, appear to show that the change is to be referred to a comparatively recent period. If, as some inquirers have (on geological and other evidence) assumed, the central parts of Scotland, between the Clyde and the estuaries of the Forth and Tay, have become elevated since the first century of the Christian era to upwards of 20 feet above their previous level, large portions of land adjoining the present coast-lines of those estuaries must *then* have been submerged beneath the water.—See Paper by A. Geikie, F.G.S. &c., read before the Geological Society of London, 1862.

THE ROMAN WALLS.—The victories of Agricola made the Romans masters of all South Britain, as well as, for a time, of the southern portion of lowland Scotland—that is, of Scotland as far as the Clyde and Forth. Thus, before the end of the first century of the Christian era, Britain was reduced to a Roman province: frequent intercourse sprang up between Rome and her newly-subjugated territory, and an influx of population from foreign lands was directed towards the latter. The oysters, as well as many other productions of Britain, were well known at Rome. Roman legions were permanently stationed in Britain—the second legion at Isca Silurum (*Caerleon*); the sixth at Eburacum (*York*); the twentieth at Deva (*Chester*)—and Roman towns sprang up in all parts of the island.

But the Roman frontier to the northward was not uniformly maintained at the same place. It was difficult to retain in peaceful subjection the fierce tribes of North Britain, who made frequent incursions into the more open and fertile country to the southward (as their successors did at a much later period). The Emperor Hadrian, who visited Britain in the year 120, erected a formidable barrier across the island, between the Tyne and the Solway. This consisted of a massive wall, nearly seventy miles in length, extending over hill and plain, from the spot now known as Wall's End,* on the Tyne, to Bowness, on the south shore of the Solway Firth. The wall was accompanied on its southern side by an earthen vallum and a deep ditch, and was fortified with a series of twenty-three military stations or towns, with intermediate mile-castles and watch-towers. This great work, of which there are numerous and massive remains in the present day, is known as Hadrian's Wall. The Emperor Severus, nearly a century later (A.D. 210), perhaps repaired portions of the wall which had fallen into

* It is, perhaps, seldom remembered, on the part of those who familiarly use the term 'Wallsend,' now so well known, that it commemorates a work of Roman greatness—the most stupendous and enduring of such memorials in our island, erected by those who were its masters upwards of seventeen centuries since.

decay, and frequently visited its towns and garrisons during his stay in Britain.

It is not necessary to suppose that the erection of this wall by the Emperor Hadrian implies the relinquishment of the tract of country lying to the north of its limits. The more northwardly barrier, marked out by Agricola, may still have been preserved. It was, at any rate, resumed as the farther limit of the Roman province, when, under the Emperor Antoninus Pius (A.D. 138), Lollius Urbicus, his proprætor or governor in Britain, erected a more complete line of defence across the isthmus between the Clyde and Forth. Following the line of Agricola's work, Lollius Urbicus raised there a new chain of forts, joining them by a continuous rampart of earth and turf. This work, from the name of the emperor under whom it was erected, is usually called the Wall of Antoninus. The portions of it which are now traceable are known by the name of Græme's (or Graham's) Dyke. Along its course there are frequently found inscribed tablets commemorating the portions built respectively by the different troops and cohorts of the Roman army.*

ROMAN ROADS.—It is not the purpose of this work to trace the course of Roman power in Britain, still less to attempt any delineation of the political and social life of the Britons during the lengthened period of Roman dominion in the island. The numerous Roman works which have been found, from time to time, in every part of the country — among them, inscribed tablets, coins, tessellated pavements, and fragments of a vast variety of articles, alike of use and ornament — enable the diligent antiquary to portray, in considerable detail, the social and

* A mound called the 'Chapel Hill,' adjoining the western end of the village of West Kilpatrick (Dumbartonshire), on the right bank of the Clyde, 9 miles below Glasgow, and at which numerous sepulchral stones, with vases, coins, and other Roman remains, have been found, is with good reason supposed to mark the western termination of the wall of Antoninus. The eastern termination of the wall was probably Caer-riden, on the Forth, 3 miles N.E. of Linlithgow.

domestic life of the time, and furnish, besides, material aid in the way of supplement to such notices of public events as are preserved in the records of written history. For all such details, the student may be referred to the admirable volume named below.*

The Roman roads in Britain penetrated the most distant parts of the island, and there is hardly a county of England and Wales in which traces of them are not extant. Some of these works may have followed the course of earlier roads constructed by the Britons, but in the vastly greater number of instances, the remains now seen are undoubtedly of Roman origin. A Roman road of the first class was really a paved causeway, formed by successive layers of earth, stones, and mortar, the whole surmounted either by stone or by a firm bed of gravel and lime, and was thus a work of very solid construction. It was generally raised above the level of the ground on either side, forming an *agger*. Such roads are found in many parts of the country in a state of very complete preservation, and they form the foundation of many of the best roads in England at the present day. Where such foundations have continued to be used as high roads, they are naturally much worn down, and the extraordinary and undeviating straightness of their course is often the readiest means by which they can be identified. Sometimes, however, where the whole line of road has been disused, or where it runs across an unfrequented heath, the ancient Roman work is visible for miles in succession, forming a continuous embankment. The Roman roads generally ran in a straight line from point to point, some conspicuous object on the horizon serving to give the direction of the course taken. They seldom turn aside to avoid a hill, and in some instances proceeded directly up the face of considerable acclivities. The embankment of the Roman road which ran along the summit of the Gog Magog hills, near

* *The Celt, the Roman, and the Saxon.* By Thomas Wright.

Cambridge, is still perfect. The mountain named High Street, in Westmoreland, derives that name from the fact of a Roman road having run along its summit, at an elevation of nearly 2,000 feet above the sea. Marshes were either drained or filled up by the Roman engineers, where the course of the road made it necessary to traverse them.

A map can alone give a correct idea of the number and direction of the roads by which South Britain was traversed during the Roman period. They connected, it will be seen, all the principal towns of the island. Indeed, it is by their place on the road, and the coincidence of the site with the distance recorded in the Itineraries, that the localities of many of the Roman towns are identified. Several of these lines of road bear the name of *street*, given them, no doubt, by the Saxon settlers in the island, and derived from the Roman *strata* (i.e. *via strata*, a paved way).* Thus we have Watling Street, the great line of road extending from Dubris (*Dover*), through Londinium, in the direction of north-west, to Deva (*Chester*); Ermine Street, which name is given to the line of way running due north, from the coast of Sussex, through the metropolis, to Lindum (*Lincoln*); Icknield Street, running in a direction of north-east from the extremity of Cornwall towards the coast of Norfolk, and passing by Isca (*Exeter*), Camboricum (*Cambridge*), and other towns; Ryknield Street, from the Humber towards Durocornovium (*Cirencester*), and several others. Some of these works, again, are known by the term *way*, as the Fosse Way, the Port Way, &c.

DIVISIONS OF ROMAN BRITAIN.—BRITANNIA formed, under its Roman masters, a distinct province of the empire. It was at first under the administration of a *proprætor*, or

* The frequent occurrence of the word *street*, applied to villages and even to detached houses, in many parts of England, may be noticed as indicative, in numerous cases, of the course taken by a line of Roman road; as also is the recurrence in our village nomenclature of such names as Streatham, Stratford, Stretton, &c. The names Watling, Ermine, and others, were connected with various personages in the Saxon mythology. See *Wright*, p. 456.

military governor. At a later time, towards the close of the period of Roman dominion, the supreme governor of Britain had the title of Vicarius, and was himself subject to the præfect of Gaul. We learn these and other particulars from the 'Notitia Imperii,' a work which probably dates from the early part of the fifth century. At that time the Roman province of Britain included five divisions, distinguished by the names of Britannia Prima, Britannia Secunda, Flavia Cæsariensis, Maxima Cæsariensis, and Valentia. The governors of the two last-named divisions were of consular rank (*consulares*): the three others were governed by presidents (*præsides*).

1. BRITANNIA PRIMA is supposed to have comprehended the country lying south of the Thames and the Bristol Channel.

2. BRITANNIA SECUNDA corresponded to the modern principality of Wales, with the adjacent country on the east, as far as the Severn and the lower course of the Dee.

3. FLAVIA CÆSARIENSIS comprised all the middle and eastern portions of England, from the Severn to the North Sea, and from the Thames to the Humber and the Mersey.

4. MAXIMA CÆSARIENSIS embraced the country extending north from the last-named division to the line of Hadrian's Wall:—corresponding, that is, to the six northern counties, with the exception of part of Northumberland.

5. VALENTIA included the tract of country lying between the two walls — that is, the lowland portion of Scotland, as far north as the isthmus of the Clyde and Forth, with the larger part of Northumberland.*

* The limits of these divisions, as stated above, are commonly marked on maps, but they rest only on exceedingly doubtful authority. The names of the divisions themselves are given in the work entitled 'Notitia Imperii,' a document of high value. The assumed limits between these divisions are derived from the work attributed to Richard of Cirencester, and stated to have been compiled by a monk of that name, in the fourteenth century, from the papers of a Roman general. The same authority states that the country lying north of the Wall of Antoninus formed a sixth division, under the name of Vespasiana. There are good

TOWNS.—The geographer Ptolemy, who wrote about 120 A D., gives the names of fifty-six cities then existing in Britain. These cities, with the modern localities to which they are believed to correspond, are enumerated below :—

In the country of the Novantæ:

Loucopibia	. <i>Whithorn?</i>		Retigionium	. <i>Stranraer.</i>
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Among the Selgovæ:

Carbantorigum	. <i>Kirkcudbright.</i>		Corda	. <i>Lynckirk?</i>
Uxelum	. <i>Castle Over?</i>		Trimontium	. <i>Eildon.</i>

Among the Damnii:

Colania	. <i>Lanark?</i>	|	Lindum	. <i>Ardoch</i>
Vanduaria	. <i>Paisley.</i>			(Perthshire).
Coria	. <i>Castle Cary.</i>	|	Victoria	. <i>Dealgin Ross</i>
Alauna	. <i>Kier? (near</i>			(Perthshire).
	<i>Stirling).</i>			

Among the Otadeni:

Curia	. <i>Borthwick Castle</i>		Bremenium	. <i>Riechester.</i>
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Among the Vacomagi:

Banatia	. <i>Inverness?</i>		Tuesis	. <i>near Gordon</i>
Tameia	. <i>Braemar Castle?</i>			<i>Castle.</i>

Among the Venicontes:

Orrhea *Bertha?* (at junction of river Almond with Tay, Perthshire.)

Among the Texali:

Devana *Norman Dykes (Aberdeen)?*

Among the Brigantes:

Epeiacum	. <i>Lanchester.</i>	|	Isurium	. <i>Aldbrough.</i>
Vinnovium	. <i>Binchester.</i>		Rhigodunum	. <i>Ribchester.</i>
Cataractonium	. <i>Catterick Bridge,</i>		Olicana	. <i>Ilkley.</i>
	<i>Yorkshire.</i>		Eboracum	. <i>York.</i>
Calatum	. <i>near Kendal?</i>		Camunlodunum	.

Among the Parisii:

Petuaria *Brough (on the Humber)?*

reasons for doubting the authenticity of this document as a whole; yet the coincidence between many of its statements (as to particular localities) and the modern discoveries of Roman sites, seems to show that it must have been compiled from materials of some real value, now no longer extant.

Among the Ordovices:

Mediolanium	. <i>Claudd Coch</i>	|	Brannogenium	. <i>Leintwardine</i>
	(Montgomeryshire).			(Herefordshire?)

Among the Cornavii:

Deuna (Deva)	. <i>Chester.</i>		Viroconium (Uro-	
			conium)	. <i>Wroxeter.</i>

Among the Coritavi:

Lindum	. <i>Lincoln.</i>		Rhagæ	. <i>Leicester.</i>
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Among the Catyeuchlani:

Salenæ	. <i>Chesterfield,</i>		Urolanium (Veru-	
	near <i>Sandy</i>		lamium)	. <i>St. Albans.</i>
	(Bedford-			
	shire).			

Among the Simeni (Iceni):

Venta <i>Caistor, near Norwich.</i>
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Among the Trinobantes:

Camudolanum (Camulodunum) <i>Colchester.</i>
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Among the Demetæ.

Luentinum	. <i>Llanio (Car-</i>		Maridunum	. <i>Caermarthen.</i>
	diganshire).			

Among the Silures:

Bullæum <i>Usk (Monmouthshire).</i>
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Among the Dobuni:

Corinium (Durocornovium?) <i>Cirencester.</i>
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Among the Atrebatii:

Nalkua <i>Silchester?</i>
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Among the Cantii:

Londinium	. <i>London.</i>		Rhutupiæ	. <i>Richborough,</i>
Darvenum (Duro-				near <i>Sand-</i>
vernium)	. <i>Canterbury.</i>			<i>wich.</i>

Among the Regni:

Naeomagus (Noviomagus) <i>Holwood Hill.</i>
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Among the Belgæ:

Ischalis	. <i>Ilchester.</i>		Venta	. <i>Winchester.</i>
Hot Springs	. <i>Bath.</i>			

Among the Durotriges:

Dunium <i>Maiden Castle, near Dorchester.</i>
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Among the Dumnonii :

Voliba . . .	<i>Lostwithiel?</i>	Tamare . . .	<i>Tamerton?</i>
Uxela . . .	<i>Bridgewater?</i>	Isca . . .	<i>Exeter.</i>

The date of Ptolemy's writings is less than eighty years after the Roman conquest of Britain had commenced, and within forty years after the successes of Agricola had completed the subjugation of the island. We may assume that some, at least, of these cities — probably many of them — must have been already in existence as British towns before the Romans visited the island. This was almost certainly the case with Londinium (*Caer-Lunden* of the Britons), with Camulodunum (*Caer-Colun*), and some others.

A more numerous list of places in Roman Britain is derived from the Antonine Itinerary, a work belonging to the early part of the fourth century (about the year 320). This work is an elaborate record of the great roads throughout the Roman Empire, with a statement of the distances along each, from point to point, in Roman miles. That portion of it which relates to Britain enumerates fifteen distinct *iters*. To facilitate reference, an alphabetical order is adopted in the following list of places mentioned in this work. The names coincide in several instances with those of the cities mentioned by Ptolemy :—

STATIONS MENTIONED IN THE ANTONINE ITINERARY.

Aquæ Solis . . .	<i>Bath.</i>	Brocavium . . .	<i>Brougham.</i>
Ariconium . . .	<i>Weston.</i>	Brovonacæ . . .	<i>Kirkby Thure.</i>
Blestium . . .	<i>Monmouth.</i>	Burrium . . .	<i>Usk (Mon-</i>
Blatum Bulgium . . .	<i>Bowness, on</i>		<i>mouthshire).</i>
	<i>the Solway</i>	Cæsaromagus . . .	<i>near Chelms-</i>
	<i>Firth.</i>		<i>ford.</i>
Benaventa (or Isan-		Calcaria . . .	<i>Tadcaster.</i>
navatia) . . .	<i>Burrow Hill.</i>	Calleva Atrebatum	<i>Silchester.</i>
Bomium . . .	<i>Ewenny.</i>	Causennæ . . .	<i>Ancaster.</i>
Bravinium . . .	<i>Leintwardine.</i>	Camboricum . . .	<i>Cambridge.</i>
Bremetonacæ . . .	<i>Overborough.</i>	Cambodunum . . .	<i>Slack.</i>
Bremenium . . .	<i>Ribchester.</i>	Camulodunum . . .	<i>Colchester.</i>

Canonium . . .	near <i>Kelvedon</i> (<i>Essex</i>).	Luguvallium . . .	<i>Carlisle</i> .
Cataractonium . . .	<i>Catterick</i> <i>Bridge</i> .	Magnæ . . .	<i>Kentchester</i> .
Clausentum . . .	<i>Bittern</i> , near <i>Southampton</i> .	Magiovinum . . .	<i>Fenny-Strat-</i> <i>ford</i> .
Coccium . . .	<i>Ribchester</i> .	Mancunium . . .	<i>Manchester</i> .
Colonia (Camulodunum) . . .	<i>Colchester</i> .	Manduessedum . . .	<i>Manchester</i> , near <i>Ather-</i> <i>stone</i> .
Conovium . . .	<i>Caer Rhun</i> .	Margidunum . . .	near <i>East</i> <i>Bridgeford</i> .
Corstopitum . . .	<i>Corbridge</i> .	Maridunum (or	
Crocolanum . . .	<i>Brough</i> .	Muridunum) . . .	<i>Caermarthen</i> .
Cunetio . . .	<i>Mildenhall</i> .	Mediolanum . . .	<i>Chesterton</i> .
Danum . . .	<i>Doncaster</i> .	Mediolanum . . .	<i>Clawdd Coch</i> .
Delgovitia . . .	<i>Millington</i> .	Nidum . . .	<i>Neath</i> .
Derventio . . .	<i>Stamford</i> <i>Bridge</i> , <i>Yorkshire</i> .	Noviomagus . . .	<i>Holwood Hill</i> .
Deva . . .	<i>Chester</i> .	Pennocrucium . . .	<i>Stretton</i> , near <i>Penkridge</i> .
Dubræ . . .	<i>Dover</i> .	Pontes . . .	<i>Staines</i> .
Durnovaria . . .	<i>Dorchester</i> .	Portus Dubris	
Durobrivæ . . .	<i>Rochester</i> .	(Dubræ) . . .	<i>Dover</i> .
Durobrivæ . . .	<i>Water Newton</i> .	Portus Lemanis . . .	<i>Lympne</i> .
Durocornovium . . .	<i>Cirencester</i> .	Prætorium . . .	<i>Filey</i> .
Durolipons . . .	<i>Godman-</i> <i>chester</i> .	Ratæ . . .	<i>Leicester</i> .
Durolitum . . .	near <i>Romford?</i>	Regnum . . .	<i>Chichester</i> .
Durolevum . . .	<i>Judde Hill</i> .	Rutupiæ . . .	<i>Richborough</i> , near <i>Sand-</i> <i>wich</i> .
Durovernum . . .	<i>Canterbury</i> .	Segelocum . . .	<i>Littleborough</i> .
Eburacum . . .	<i>York</i> .	Segontium . . .	<i>Caer Seiont</i> , near <i>Caer-</i> <i>narvon</i> .
Etocetum . . .	<i>Wall</i> .	Sitomagus . . .	<i>Dunwich</i> .
Galacum . . .	near <i>Kendal</i>	Sorbiodunum . . .	<i>Old Sarum</i> .
Galava . . .	<i>Keswick?</i>	Spinæ . . .	<i>Speen</i> , near <i>Newbury</i> .
Glanoventa . . .	<i>Ellenborough?</i>	Sulloniacæ . . .	<i>Brockley Hill</i> .
Glevum . . .	<i>Gloucester</i> .	Tripontium . . .	<i>Lilbourne</i> .
Gobannium . . .	<i>Abergavenny</i> .	Uroconium . . .	<i>Wroxeter</i> .
Isca Dumnoniorum	<i>Exeter</i> .	Uxacona . . .	<i>Oconyate</i> .
Isca (Silurum) . . .	<i>Caerleon</i> .	Vagniacæ . . .	<i>Southfleet</i> .
Isurium . . .	<i>Aldborough</i> .	Varæ . . .	<i>Bodfari (Flint)</i> .
Lactodorum . . .	<i>Towcester</i> .	Vennonæ . . .	<i>High Cross</i> .
Lavatræ . . .	<i>Bowes</i> .	Verlucio . . .	<i>Sandy Lane</i> , near <i>Spy Park</i> (<i>Wilts</i>).
Legiolium . . .	<i>Castleford</i> .	Venta Belgarum	<i>Winchester</i> .
Lemanis Portus . . .	<i>Lympne</i> , near <i>Hythe</i> .	Venta Icenorum	<i>Caistor</i> , near <i>Norwich</i> .
Leucaura . . .	<i>Lluchwr</i> (<i>Caermar-</i> <i>then</i>).		
Lindum . . .	<i>Lincoln</i> .		
Londinium . . .	<i>London</i> .		

Venta Silurum .	<i>Caerwent.</i>	Vindomis .	near <i>Whit-</i>
Verometum .	near <i>Willoughby</i>		<i>church?</i>
	(<i>Notts</i>).	Vindogladia .	<i>Gussage.</i>
Verulamium .	<i>St. Albans.</i>	Vinovia .	<i>Binchester.</i>
Verteræ .	<i>Brough.</i>	Voreda .	<i>Plumpton Wall.</i>

The following places, not found in the above list, are mentioned in the 'Notitia.' Their identity with modern sites is in several instances extremely doubtful:—

Anderida .	<i>Pevensey?</i>	Gariannonum	<i>Burgh Castle, near</i>
Arbeia .	<i>Moresby</i> (<i>Cumber-</i>		<i>Yarmouth.</i>
	<i>land</i>).	Morbium .	<i>Templeborough,</i>
Branodunum	<i>Brancaster</i>		near <i>Rotherham?</i>
	(<i>Norfolk</i>).	Olenacum .	<i>Old Carlisle.</i>
Bremetenracum	<i>Whitbarrow</i> (near	Othona .	<i>Ithanceaster</i>
	<i>Greystoke,</i>		(<i>Essex</i>)?
	<i>Cumberland</i>).	Portus Adurni	<i>Aldrington?</i>
Derventio .	<i>Papcastle, near</i>	Regulbium .	<i>Reculver.</i>
	<i>Cockermouth.</i>		

The 'Notitia' mentions, besides, eighteen stations as occurring along the Wall of Hadrian. Of some of these considerable remains are still in existence. The most eastwardly of them was Segelocum (identified with *Cousens House*, near *Newcastle*): the most westerly was *Tunno-celum*, near *Bowness*, on the *Solway Firth*.

Among the most important of the Roman towns in Britain were Verulamium (*St. Albans*), Eburacum (*York*), Londinium (*London*), Camulodunum (*Colchester*), Deva (*Chester*), Lindum (*Lincoln*), Aquæ Solis (*Bath*), Isca Silurum (*Caerleon*), Glevum (*Gloucester*), Venta Belgarum (*Winchester*), and Rutupiae (*Richborough*). The two first-named had the privileges of *municipia*: most, if not all, of the others, ranked as *colonia*. Both of those distinctions (the former in a more eminent degree) conferred peculiar rights and privileges on the citizens who dwelt within them. Londinium appears, as the residence of the proprætor, to have been the seat of general government for the entire province. Eburacum, however, enjoyed nearly equal importance in this respect; it was a centre of military command for the northern portion of the province

and was the permanent station of the sixth legion.* The twentieth legion was stationed at Deva (*Chester*). The second legion, originally stationed at Isca (*Caerleon*), was afterwards removed to Rutupiæ (*Richborough*).

Rutupiæ was the ordinary landing-place, or point of departure, to or from the coast of Gaul.†

The following additional names, capable of ready identification with modern localities, occur in the geography of Roman Britain — the greater number of them in the pages of Ptolemy : —

Tarvedrum or		Antivestæum, or
Orcas Prom. .	<i>Dunnet Head.</i>	Bolerium, Prom. <i>Land's End.</i>
Vervedrum Prom.	<i>Dunscansby Head.</i>	Hercules Prom. <i>Hartland Point.</i>
Taizalum Prom.	<i>Kinnaird's Head.</i>	Octapitarum
Ocellum Prom. .	<i>Flamborough Head.</i>	Prom. . . <i>St. David's Head.</i>
Cantium Prom. .	<i>North Foreland.</i>	Canganorum
Damnonium, or		Prom. . . <i>Braich-y-Pwll.</i>
Ocrinum Prom.	<i>The Lizard.</i>	Novantum Prom. <i>Mull of Galloway.</i>
		Epidium Prom.. <i>Mull of Cantire.</i>
Vara Æstuarium	<i>Murray Firth.</i>	Portus Magnus . <i>Portsmouth Harbour.</i>
Tava Æstuarium	<i>Firth of Tay.</i>	Sabrina Æstuarium . . . <i>Mouth of Severn.</i>
Boderia Æstuarium . . .	<i>Firth of Forth.</i>	Moricambe Æstuarium . . . <i>Morecambe Bay.</i>
Gabrantuicorum		Ituna Æstuarium . . . <i>Solway Firth.</i>
Sinus . . .	<i>Filey Bay.</i>	
Metaris Æstuarium	<i>The Wash.</i>	
Tamissa Æstuarium . . .	<i>Mouth of Thames.</i>	

* The Emperor Severus died at York, A.D. 211.

† Probably the places mentioned in the Itineraries were not all of them towns, in the modern meaning of the word. Some may have been merely military stations. On the other hand, towns must undoubtedly have existed, during the Roman period, at many localities of which the Roman names are unknown to us. We are unable, for example, to identify Worcester with any of the places named in the Itineraries or elsewhere, though the name alone (*cester*, from *castrum*) may be taken as evidence of its Roman origin. *Dorchester*, in *Oxfordshire*, is another example.

Abravannus		Lelannonius	
Sinus . . .	<i>Luce Bay.</i>	Sinus . . .	<i>Loch Fyne.</i>
Clota Æstua-		Longus Æstu-	
rium . . .	<i>Firth of Clyde.</i>	arium . . .	<i>Loch Linnhe.</i>
<hr/>			
Orcades Insulæ .	<i>Orkney</i>	Mona (of Tac-	
	<i>Islands.</i>	tus). . .	<i>I. of Anglesey.</i>
Ebudæ Insulæ .	<i>Hebrides.</i>	Cassiterides, or	
Mona (of Cæsar),		Æstrymnides,	
or Monoeda		Insulæ . . .	<i>Scilly Islands.</i>
Insula . . .	<i>Isle of Man.</i>	Vectis Insula .	<i>Isle of Wight.</i>

CHAPTER IV.

SAXON ENGLAND.

WE learn from the 'Notitia,' that during the later portion of the period of Roman dominion in Britain, the military affairs of the province were directly under the management of the government of Gaul, without the intermediation of the Vicarius (or civil governor) of the island. They were divided among three chief officers—entitled respectively, the Count of the Saxon shore, the Count of Britain, and the Duke of Britain. The first named of these had under his command the garrisons of nine fortresses along the coast, from Portus Adurni (either *Aldrington*, on the coast of Sussex, or else *Portchester*, in Hampshire) to Branodunum (*Brancaaster*, in Norfolk).

This statement is of the highest importance, in its bearing upon the early annals of Britain. An extensive portion of the English coast was known, we find, even in Roman times, as the Saxon shore, a fact sufficient in itself to establish the certainty that strangers of Teutonic race were already familiar, at least as occasional visitors, with the south-eastern division of the island, even if they were not, as is most probable, settlers there to some extent. The appellation of Saxon shore cannot be understood in a merely geographical sense, as applying to that portion of the British coast which immediately fronts the native country of the Saxon people: it includes, besides part of the eastern coast, a large portion also of the southern shore, at least as far west as the coast of Sussex—a district which could only have become associated with the Saxon name from the fact

of Saxons being its customary visitors and partial occupants.*

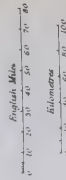
The current statements of history tell us how, a few years after the final withdrawal of the Roman legions from Britain (A.D. 420), the Saxons were called in to the aid of the defenceless islanders, unable to protect themselves against the incursions of the barbarian tribes who dwelt beyond the wall; and how, from the date of the landing of Hengist and Horsa on the isle of Thanet (A.D. 449), down to the closing year of the sixth century, Saxon invaders from beyond the sea established in succession various kingdoms within the eastern, south-eastern, and central portions of the island. To whatever amount of credit the popular narrative of these transactions may be entitled, there is no doubt that England, at the close of the sixth century, comprehended eight distinct Saxon kingdoms. Two of these became united in the early portion of the ensuing century, thereby reducing the number to seven.

Who were the Saxons, and whence did they come? It is perhaps impossible to identify with precision the localities whence the early Saxon settlers in Britain came, but the general area of that people is sufficiently well marked. It comprehended the coasts of the North Sea and the Baltic, from the Rhine to the mouth of the Oder (including the basin of the Weser and the lower portion of the basin of the Elbe), together with the southward and narrower part of the Cimbric Chersonese. The tract embraced within this

* Antiquarian researches tend to establish the probability that the transition from Roman to Saxon was in great measure gradual, and that the latter race were already to some extent settlers in Britain before the former had abandoned it. In parts of the south-eastern division of the island, Roman and Saxon must have been dwellers side by side. 'At Canterbury, Colchester, Rochester, and other places, we find (says Mr. Wright) Roman and Saxon interments in the same cemetery; and in the extensive Saxon burial-ground at Ossengal, in the Isle of Thanet, a Roman interment in a leaden coffin was met with. The result of the discoveries which have been made in the researches among the Saxon cemeteries has been to render it more and more probable that the Saxons were gradually gaining a footing in the island before the period at which the grand invasions are said to have commenced.'—*The Celt, the Roman, and the Saxon.*

SOUTH BRITAIN
DURING

THE SAXON PERIOD



area answers to the modern kingdom of Hanover, with Oldenburg, Mecklenburg, Holstein, Sleswig, and the chief part of the present kingdom of the Netherlands. The tribes or nations who dwelt within these limits were distinguished by different names, as well as by differences of dialect and usage. The Jutes and Angles inhabited the Cimbric Chersonese. The former people have left their name to the modern Jutland, and in Sleswig there is a district which is still known by the name of Anglen — regarded by some writers as the source whence the word Anglia (or England) is derived. It is uncertain, however, whether any of the early Saxon invaders and colonists of Britain were Jutes, properly so called.

All the dwellers within the area above indicated, together with those dwelling further northward, on the shores of the Scandinavian peninsula, both on the side of the Baltic and the North Sea, had a general resemblance, and belonged to the same great stock—that is, the Gothic or Teutonic. They were all hardy freebooters, ready for adventure whether by land or sea, and living under chieftains who were able as well as willing to carve out their fortunes with their swords.

THE SAXON KINGDOMS.—The Saxon Kingdoms in Britain, at the close of the sixth century, were—

1. KENT (*Cantware*), embracing the county of that name. founded A.D. 457, under Eric the son of Hengist. *Canterbury* was its metropolis.
2. SUSSEX (i.e. *Suth-Seaxe*, or county of the South Saxons), embracing the counties of Sussex and Surrey: founded A.D. 491, under Ella. Chief city, *Chichester*. The kingdom of Sussex included the larger portion of the forest of Andreadeswold (or Andredswold), said to have extended 120 miles in length by 30 in breadth. The tract of country still known as the Weald corresponds to part of this region.
3. WESSEX (*West-Seaxe*, or West Saxons), embracing the

country extending from the border of Sussex westward to the river Ex, and from the south coast to the Thames and the estuary of the Severn—i.e. the modern Hampshire, Berkshire, Wiltshire, Dorset, Somerset, and a part of Devon. Founded A.D. 519, under Cerdic. Capital, *Winchester*.

4. ESSEX (*East-Seaxe*, or East Saxons), including, with Essex, the county of Middlesex—i.e. Middle-Seaxe, and the chief part of Hertford. Founded A.D. 527, under Ercenwine. Capital, *London*.
5. BERNICIA (*Bryneich*), embracing the modern Northumberland, with the adjacent portion of lowland Scotland as far as the south shore of the firth of Forth. Founded A.D. 547, under Ida. Capital, *Bamborough* (or *Bebbanburgh*).
6. DEIRA (*Deornas*), extending between the Humber and the Tyne—i.e. the modern Yorkshire and Durham: founded A.D. 560. Capital, *York* (*Eoforwic*).
7. EAST ANGLIA (*East Engle*), embracing the modern Norfolk (*North-folk*), Suffolk (*South-folk*), and Cambridge. Founded A.D. 571. Capital uncertain.
8. MERCIA (*Myrcna*), comprehending all the midland portion of England, as far west as the Welsh border, and extending in the direction of north and south from the Humber to the Thames. Founded A.D. 626. Capital uncertain.

About the year 617, Bernicia and Deira became united in the single kingdom of NORTHUMBRIA, thus reducing the number of the Saxon kingdoms to seven.

BRITISH KINGDOMS.—The Saxon Kingdoms enumerated above did not include the whole of South Britain. A considerable portion of England, and the whole of Wales, lay beyond their limits, as also did the larger part of the Scotch lowlands, to the south of the Clyde. The whole western side of the island, from the Clyde to the Land's End, re-

mained unconquered. The natural features of this extensive tract of country, for the most part difficult of access, and still more difficult to hold in occupation, enabled its original possessors, the Britons, to retain their independence. Here, as in many regions elsewhere, the native tribes preserved among the hills the freedom which they lost in the plains. In the south-west, the standard of the kings of Wessex advanced by slow degrees to the westward. First the line of the Salisbury Avon, afterwards that of the Ex, and later the course of the Tamar, marked the long-contested frontier. Nearly two centuries elapsed after the landing of the Saxons before they had penetrated into Devonshire. Driven from the banks of the Ex, the Britons found a retreat beyond the Tamar, which in the early part of the tenth century marked the limit of West Saxon dominion. The natives of the rugged Cornish peninsula preserved their freedom until the reign of Athelstan.

The British Kingdoms, coeval with the eight (or afterwards seven) Saxon Kingdoms, were—

1. STRATH-CLYDE, or lowland Scotland from the estuary of the Clyde to the Solway. *Alcluyd*, the modern Dumbarton, was its capital. Strath-clyde was probably inclusive, at least at times, of several smaller kingdoms. It was sometimes united with—
2. CUMBRIA, i.e. the modern Cumberland, Westmoreland, and Lancashire, or the western tract from the Solway to the Mersey, and reaching inland to the high grounds of the Pennine range.
3. WALES, which formed several distinct kingdoms.
4. DEVON and CORNWALL (or Damnonia), to which the name of West Wales was sometimes given.

BRITAIN IN THE NINTH CENTURY.—The smaller Saxon Kingdoms gradually declined, and became absorbed in their more powerful neighbours. Sussex was annexed to Wessex before the close of the seventh century: both Essex and Kent were incorporated within Mercia before the succeeding

century had elapsed. East Anglia was in great measure occupied by Scandinavian invaders.

During the later half of the eighth century the Saxon kingdoms in Britain were reduced in number to three — NORTHUMBRIA, MERCIA, and WESSEX. The two former of these gradually declined in power, and Egbert, king of the West Saxons, who mounted the throne in 823, exercised predominant sway over the whole of Saxon England — that is, over South Britain from the Tweed to the English Channel, and from the German Ocean to the border of Wales. *Winchester* was his capital. The laws, institutions, and language of the West Saxons hence became dominant over those of the other Saxon settlers in Britain.

We need not suppose that the British population were altogether expelled from even any portion of the soil of which the Saxons had become masters. Many of them doubtless remained, and were more or less mixed up with their conquerors. This was more particularly the case in the midland kingdom, Mercia, than in other parts of the conquered country. The south-east and south became more specially Saxon than either the east, the north-east, or the centre. In these latter directions another element of admixture was being rapidly introduced.

THE DANES.—During the reign of Egbert, a body of Danes advanced up the estuary of the Thames, plundered the Isle of Sheppey, and afterwards escaped to their ships (A.D. 832). During the two hundred years which followed, the Danes were everywhere the terror of Saxon England. Their standard, the raven—fit emblem of their habits of rapine, and of the keenness with which they pursued their prey — was seen in every estuary of the British waters, and everywhere carried terror with it.

Who were the Danes? The people so called in English story were, properly, Norse, or Northmen, the native inhabitants of Scandinavia and the Baltic coasts. They were derived rather from Norway than from the Denmark of

modern geography, though all three of the Scandinavian countries — Denmark, Norway, and Sweden — contributed to the supply of the dreaded invaders. The Northmen, from the shores of the Cattegat to the North Cape and the head of the Baltic, were throughout sea-warriors and pirates. In the ninth and tenth centuries, they ravaged the coasts of Europe from the North Sea to the Bay of Biscay, and even penetrated the waters of the Mediterranean, extending their inroads as far as the shores of Greece.* The coasts of England and France were by turn the scene of their destructive inroads, and in both countries they effected a permanent settlement.

Between the Saxon settlers in Britain, and the Scandinavian pirates, known in history as Danes, who ravaged their coasts, there were many points of resemblance, indicative of a common (or nearly common) origin. The languages spoken in Denmark, Sweden, Norway, Iceland, and the Faröe Islands (the two latter discovered and settled by the Northmen), were closely akin to the dialects proper to the Anglo-Saxon race. All of those tongues, indeed, Scandinavian and Teutonic inclusive, are comprehended under the common term *Gothic*.†

The great point of difference between the Anglo-Saxons and their invaders consisted in the maritime skill of the latter. The sea was the element upon which the Northmen best displayed their skill. ‘Every family had its boat or ship, and the younger sons of the noblest of the land had no other fortune than their sword and their *chiules*’ (i. e. keels). They often drew their vessels on shore for safety, or dragged them overland, from one estuary or river to another. The Saxons, on the contrary, at least in the

* Charlemagne had shed tears at the thought of the future disasters which awaited his empire, as he gazed from a port on the Mediterranean upon some Norman cruisers which had penetrated its waters.—Hallam: *Middle Ages*, chap. i.

† Of the Gothic stock of languages, the Scandinavian is one branch, the Germanic or Teutonic is another.—Latham: *Handbook to the English Language*.

earlier period of Danish invasion, with the growing addition to the settled industry of the husbandman, had lost their ancestral aptitude for maritime pursuits. Hence the efforts of the great Alfred in the creation of a navy, the surest defence of the English coasts.

In the year following their inroad on the Isle of Sheppey, the Danes landed on the coast of Dorsetshire. In the succeeding year they formed an alliance with the British inhabitants of Cornwall, but were defeated with great slaughter at Hengestendun, or Hengsdown Hill (Hingston Down, to the west of the Tamar, near Callington.)

After the death of Egbert, the Danish inroads were comparatively unchecked. The Danes ravaged the coast of Wessex and Kent, sailed up the Thames and Medway, and pillaged London, Rochester, and Canterbury—not, however, without sustaining some severe checks at the hands of the Saxons. Under Ethelbert (860–866), they burnt Winchester, and established themselves permanently in the Isle of Thanet. The reign of Ethelred (866–871), the brother and successor of Ethelbert (and the immediate predecessor of his brother Alfred), was one of continual conflict with the Danes, fresh bands of whom continually replaced the vast numbers that fell before the army of the West Saxons. It was during the reign of Ethelred that the Saxons, led by Alfred, gained over the Danes the great victory of Æscendun, the site of which is probably to be found at Ashdown, in Berkshire, beside the vale of White Horse, which latter work, indeed, is regarded by many writers as commemorative of the event.

When Alfred ascended the throne of the West Saxons, (A.D. 871), the fortunes of the Anglo-Saxon people were at their lowest ebb. The Danes were in almost undisputed possession of by far the larger part of England. They had thoroughly overrun all Northumbria, from the Tweed to the Humber, and were in possession of the important city of York. The counties of Lincoln, Nottingham, Cambridge, Norfolk, and Suffolk were devastated by them, and their fortified

posts ranged over the breadth of the island as far west as the Severn. The Saxon standard had been gradually driven back towards the south-west, and it was only in Somerset and the adjoining lands that the Saxons found a rallying place. A Danish army had now wintered seven years in the land.

During the few years immediately following his accession, the arms of Alfred were successful. But he was surprised (878) at Chippenham, by the army of Guthrun, in the depth of winter, and was obliged to seek safety in temporary concealment, while his opponents overran all Wessex.

Athelney — i. e. *the Prince's Island* — a tract then insulated by the waters of the rivers Parret and Tone, joined to bogs and inundations, and covered by a dense wood, was Alfred's place of retreat.* His concealment did not last longer than five months.

The men of Wessex met Alfred at Egbert's Stone, on the east of Selwood Forest — then of greatly superior dimensions to the tract now known by that name — and the Danes were thoroughly defeated in the battle of Ethandune. The locality of Egbert's Stone is supposed to be found at Brixton Deverill, near Warminster. Ethandune is probably found at Eddington, near Westbury, which lies under the western escarpment of the chalk district of Salisbury Plain.†

But the Northmen were too numerously settled in the land for their expulsion to be accomplished by a single victory, or probably by even a dozen victories. Alfred adopted a wiser policy — one to which the nation that has grown up from the mixed blood to which the hardy Northern sea-kings contributed is largely indebted. He

* The revolutions worked by engineering science have within the last few years restored the name of Athelney to the map of England. The station so called, on the line of railway between Durston and Yeovil, is within the tract of country referred to above. The fertile meadows which spread around, dotted with thriving homesteads, and intersected by roads which connect the towns and villages of West Somerset, give the district an aspect strikingly different from that which it must have presented in the days of Saxon and Danish warfare.

† Ethandune is by some writers, however, identified with Eddington, near Hungerford, on the western border of Berkshire.

made a treaty with Guthrun, in virtue of which the right of permanent settlement within a large part of England was ceded to the Danes, on condition of their embracing Christianity and adopting the habits of peaceful settlers. The territory embraced within this cession took the name of Danelagh — i. e. *Dane-law*. It retained this name down to the Norman conquest.

THE DANELAGH — or tract of country within which the Danish settlers were so largely intermingled with the Anglo-Saxon population as to establish a recognised admission of their own laws and usages — embraced all the east side of England, from the Thames to the Tweed, and stretched far into the midland division of the island. The south and the west were left to the West-Saxon king. The terms of Alfred's treaty with Guthrun were — "Let the bounds of our dominion stretch to the river Thames, and from thence to the water of Lea, even unto the head of the same water; and thence straight unto Bedford, and finally, going along by the river Ouse, let them end at Watling Street." All to the east of this line, as far as the Humber, was ceded to the Danes, and they were already in possession of Northumbria, i.e. of York and the adjoining country as far as the Tweed.

The Danelagh included fifteen counties — viz. Lincoln, Norfolk, Suffolk, Essex, Cambridge, Huntingdon, Bedford, Hertford, Middlesex, Buckingham, Northampton (with Rutland), Leicester, Nottingham, Derby, and York (including, probably, Durham). Danes, or people of Scandinavian blood (i.e. Northmen), were by this time at least partially settlers on the western coast of England from the Solway southward, as well as in the Isle of Man and upon the Western islands and coast of Scotland. There was then, over by much the larger half of South Britain, an admixture of the Scandinavian element in the population growing up on English soil.

The repose of several years which ensued was disturbed

in 893 by a fresh invasion of Northmen, under their famous leader Hasting. The intruders landed near Romney Marsh, at the eastern termination of Andreadeswold. Hasting prolonged the conflict against Alfred through three successive years, in the course of which he carried the war across the whole country, to the banks of the Severn, but the genius of the Saxon king ultimately prevailed. The island of Mersea, on the coast of Essex, and the village of Buttington, on the right bank of the Severn, a short distance below Welshpool, were successively the strongholds of the Danish leader.

Alfred, like his predecessor Egbert, only styled himself King of the West-Saxons — i. e. of Wessex. The first to assume the title of King of the Anglo-Saxons, or English, was Athelstan, the grandson of Alfred. The Anglo-Saxon nation, we have seen, included a large Scandinavian element.

Throughout the Saxon period, Wales (or Cambria), in the west, with Cumbria and Strath-clyde, in the north-west, were independent kingdoms. Edgar, the great-grandson of Alfred (A.D. 958–975), succeeded, however, rather by policy than by force of arms, in bringing all the neighbouring states into nominal vassalage to his own dominion. Upon one occasion, eight kings are said to have rowed Edgar's barge upon the river Dee, while he held the helm. These were, the king of the Scots — of the Cumbrians — of Man and the Islands — of Galloway — of Westmere* — and three Welsh kings. It was Edgar who commuted the tribute agreed to be paid by the Welsh into three hundred wolves' heads annually, with a view to diminish the numbers of those ferocious animals.

ENGLAND UNDER SCANDINAVIAN RULE. From the reign of Athelstan, the incursions of the Northmen appear to

* That is, "The Western Sea," by which is perhaps to be understood the broader portion of the Frith of Clyde, with the included islands. Lappenberg and others, however, understand Westmoreland to be intended.

have ceased, until, in the 3rd year of Ethelred the Unready (981), the Danish raven was again seen floating in Southampton Water. Descents were made upon numerous and distant points of the coast. The cities of London, Southampton, and Chester, with many other places, were plundered. Peace was only obtained by the dangerous expedient of buying off the invaders. Year by year, the terms of such payment had afterwards to be increased. Thus arose the tax long known as *Dane-geld*.

During several years of Ethelred's reign, the Northmen ravaged England almost at will, and oppressed the peasantry. In 1002, with Ethelred's connivance (if not by his express order), a general massacre of the Danes, at the hands of the Saxon population, took place. In the following year, Sweyn, King of Denmark, crossed the sea with a numerous fleet, and in 1013 — after several successive years of bloody inroad and devastation — became acknowledged sovereign over the whole of England. Canute, the son of Sweyn (after a brief temporary partition of the kingdom between himself and Edmund Ironside — a natural son of Ethelred), succeeded to his father's power, and reigned at once over England, Denmark, Norway, and Sweden. England and Scandinavia were thus united under a single monarchy. Canute, an able and powerful monarch, reigned from 1017 to 1035.

The Saxon line of monarchs was restored in the person of Edward the Confessor, during whose reign (1042–1066) the civil power of the state was chiefly in the hands of Earl Godwin and his family. All the east and south of England, from the Wash to the Bristol Channel, was divided between three great Earldoms — those of East Anglia, Wessex, and Gloucester, respectively administered by Godwin and his two sons, Sweyn and Harold. East Anglia was Harold's Earldom, and *Dunwich** (on the coast of

* Dunwich, now an insignificant village, was formerly an important and populous town. Its decay has been due to natural causes, in operation from an early period. The cliffs on this line of coast are continually undermined by the sea. In the sixteenth century, not one quarter of the former town was left standing. — Lyell: *Principles of Geology*.

Suffolk) was his capital. The midland portion of England constituted the Earldom of Mercia (under the rule of Leofric); the portion lying north of the Humber (forming the Earldom of Northumbria) was under Siward, the rival of Godwin. But the personal predilections of Edward were strongly in favour of another race — the Normans — among whom he had passed twenty-seven years of exile.

Upon Edward's death (January 5, 1066), Harold, the most popular of Godwin's sons, was chosen by the English nation for their king, but had immediately to contest his throne — first with a Norwegian, afterwards with a Norman, foe.

Harold's first danger was from his own brother Tostig, in alliance with Harold Hardrada, the King of Norway. The battle of *Stamford Bridge* (on the river Derwent, 7 miles ENE. of York) was fought, and a complete victory was gained by the Anglo-Saxon King. Within three days of this victory, the Norman army, under Duke William, landed on the coast of Sussex, and Harold had to hasten southward, to encounter a new and more formidable foe. The result was the battle of *Hastings*, fought where the town of Battle now stands, on October 14, 1066.

CHAPTER V.

ENGLAND AT THE TIME OF THE CONQUEST.

IN the time of Edward the Confessor, the division of England into shires or counties was in familiar use. At what period the division of counties originated cannot be determined, but it is certainly older than the time of Alfred. The counties of Saxon England did not precisely correspond, however, with those of the present day. During the latter part of the Saxon period, there were reckoned 32 counties. Fifteen of these were within the Danelagh, nine were comprehended in Wessex, and eight were in Mercia. The counties belonging to the Danelagh have been already mentioned.* The nine West Saxon shires were Kent, Surrey, Sussex, Hants, Berks, Wilts, Dorset, Somerset, and Devon. The eight Mercian shires were Oxford, Gloucester, Worcester, Warwick, Stafford, Chester, Shropshire and Hereford.

The counties were further divided into hundreds and tithings, the former of which denominations maintains its place in the present day. This division, it is generally assumed, was originally numerical: that is, each tithing included ten heads of families, and each hundred was composed of ten tithings. But if so, it speedily became territorial, and it is as such it must be regarded.† There is, indeed, no correspondence between the hundreds in

* Page 104.

† Hallam: *View of the State of Europe during the Middle Ages*, chap. viii. See also Kemble: *The Saxons in England*, book 1, chap. ix. The division into counties, and of these into hundreds and decennaries, was not peculiar to England. It prevailed in France and Lombardy.

respect of magnitude, but it is clear that a division based in the first instance upon population would speedily lose its correctness of attribute in such regard, and become merely territorial.

This division of England into counties, hundreds, and tithings, dates from an early period of the Saxon settlement. The impression, long prevalent, of its having originated with Alfred, is now universally regarded as erroneous. The division itself is by no means uniform throughout the kingdom, a fact sufficiently explained by reference to the different conditions under which the Saxon kingdoms in Britain were established, and the circumstances under which they became united into a single monarchy.* In the four northernmost counties — Northumberland, Cumberland, Westmoreland, and Durham — a division into *wards* takes the place of that into hundreds. Two, at least, of those counties formed no part of Saxon England — at least not during the earlier and longer portion of the Saxon period.† The counties of York and Lincoln are divided into *wapentakes*,‡ and each of those counties has an intermediate division into three parts. In Yorkshire, this threefold division forms the well-known *ridings*, or properly *thirthings*. Kent and Sussex, again, have an intermediate division between the county and the hundred — the former into *lathes*, the latter into *rapes*.§

Besides these divisions, Saxon England was further divided, for purposes of local jurisdiction, into *townships*, or, as we should now term them, manors. The word town,

* The division of Wales into counties and hundreds did not take place until after the conquest of that principality by Edward I., and was not completed until the reign of Henry VIII.

† The term "ward" points to a time when the inhabitants of the border districts were compelled to keep continual watch and ward against their restless neighbours, the Picts and Scots.

‡ Some of the divisions of Lincoln are known as hundreds, others (and the greater number) as wapentakes.

§ Kent is divided into 5 lathes, which are subdivided into sixty-three hundreds. Sussex is divided into 6 rapes. "It is impossible," says Hallam, "to reconcile the varying size of hundreds to any single hypothesis." The county of Sussex contains 65, that of Dorset 43; while Yorkshire has only 26 and Lancashire but 6.

or township, is derived from the Saxon *tynan*, to enclose. Denoting (says Palgrave) in its primary sense the enclosure which surrounded the mere homestead or dwelling of the lord, it seems to have been gradually extended to the whole of the land which constituted the domain. Out of these townships, in cases where an increasing population was drawn to any particular spot, grew the *towns* of later date. The larger towns were distinguished among the Saxons by the name of burghs.

The division into parishes is at least as old as the tenth century. The number of parishes was formerly somewhat greater than at present. This is obvious from the fact that several parishes in the present day exhibit two names coupled together.* But an enormously exaggerated estimate of the number of parishes appears to have been early prevalent. One account makes the number of parishes at the time of the conquest above 45,000, and that of the villages above 62,000.† At the present time, the total number of parishes in England and Wales is considerably below 15,000.

A remarkable fact, illustrative of the condition of England during the earlier period of its history, is the existence in those times of nearly all the places marked, as towns, villages, &c., on the Map of England in the present day. With very few exceptions, the towns, villages, and hamlets, belonging to the England of the nineteenth century, are as old as the Saxon period, and not a few of them date from the earlier times of Roman rule in Britain. The proof of

* Instances of this are readily found in looking through any list of parishes. Marton cum Grafton (Yorkshire) is one example: Ludgershall with Kingswood (Bucks) is another.

† Pictorial History of England, book 2, chap. vii. A curious instance of legislative error, based upon this exaggerated estimate of the number of parishes, is recorded. The parliament of 1371 granted Edward III. a certain subsidy, to raise which it was estimated that an assessment at the average rate of £1 2s. 4d. upon each parish would be sufficient: but it was found, when the rate was actually levied, that the number of parishes had been taken to be five times more numerous than was really the case; so that the rate had eventually to be raised to £5 16s. on each.

this is found in the *names* which belong to the topography of England, and which in the vastly greater number of instances are either of Saxon or of Danish origin, in so far as the habitations of man are concerned.

The population of England, at the close of the Saxon period, is not supposed to have greatly exceeded two millions. Yet the fact just mentioned shows that there were nearly as many inhabited towns, villages, and hamlets, ten centuries since as at the present time. The towns of that day were not only very much smaller than even those of least importance in modern times, but their populations bore a less ratio to that of the country at large. The Saxon population of England was devoted chiefly to husbandry and pasturage, and, like all such populations, was scattered widely over the land. "On the natural clearings in the forest, or on spots prepared by man for his own uses; in valleys, bounded by gentle acclivities which poured down fertilising streams; or on plains which here and there rose, clothed with verdure, above surrounding marshes; slowly, and step by step, the warlike colonists adopted the habits and developed the character of peaceful agriculturists." * The population of Saxon England was less a town population than that of the prior Roman period had been. It would seem, indeed, that many of the Roman towns had been allowed to fall into decay, during the period of Saxon settlement.

The geographical nomenclature of Britain throws great light upon the circumstances of its early settlement, and points out, in many instances, the localities of which the successive races by whom it was colonised became the occupants. The names of natural features, in the greater number of instances, are of Celtic origin, and they are almost exclusively so upon the western side of the island — that is, within the highland regions, which remained in

* Kemble: *The Saxons in England*, book 1. See also book 2, chap. vii.

almost undisturbed possession of the earlier race, after the Saxons had supplanted them elsewhere. Throughout the island, the greater number of the mountains and rivers have never lost their Celtic appellations, and these are preserved also by not a few of the earlier towns.*

Of Celtic names, which enter largely into the geographical nomenclature of Britain, the following are among those of most frequent occurrence : —

Aber, applied to the mouth of a stream, or a place at the confluence of two streams. Aberdeen, at the mouth of the Dee; Aberystwith, at the confluence of the Ystwith with the Rheidiol; are amongst the numerous examples. Instances abound in Wales.

Afon, or *Avon*, a running stream, or river. The numerous rivers that bear the name of Avon are a well known truth of British geography. They are distributed over the island, from the southern coast of Devon to the northern slope of the Grampians, and are most numerous within the more hilly districts of the west. In Wales, nearly every running stream is an Afon.

Bally, or *ball*, a place. Places with this prefix abound in Ireland.

Ben, or *Pen* (Celtic *beinn*), a hill, mountain, or promontory. This is found throughout Britain. For example, Pen-maen-mawr (the mountain of the great stones), in North Wales; Pendle Hill, in Lancashire; Peny-y-gent, Yorkshire; and the numerous ‘Bens’ of Scotch geography.

Caer, a fortified place, as *Caer-Caradoc*, *Caer-went*, &c.

Ceraig, a rock or crag, as in *Capel Ceraig* (*Capel Curig*; North Wales).

Cwm (*Coombe*), a valley under the escarpment of a hill; a hollow. The beautiful coombs or valleys of Devon offer familiar examples. *Cwm* abounds in the geographical nomenclature of Wales.

Dun, or *din*, a place hedged in; a town or hill foot. *Caer-Lundun* (London) is an example: *Dunbarton* (now *Dumbarton*) is another.

Glen, a small valley. The numerous highland glens illustrate the use of this term. The correspondent term *Glyn* is of frequent

* Many names of places point to the condition of the country at this time when the Saxon settlers first made it their home. “Thus,” says Mr. Wright, “we can have no doubt that the site of Beverley was then a plain so unfrequented by man as to be occupied only by beavers, or that places with names compounded of such words as wolf, boar, &c., were the usual resorts of those animals, long the savage tenants of the British woods.”

occurrence in Wales. Glen is also common in Ireland, amongst the mountains of Wicklow, Antrim, and elsewhere.

Inch, or *Innis*, an island: as *Inch-Keith*, &c.

Inver, a confluence of waters, or the mouth of a river; as in *Inverness* (the mouth of the Ness); *Inverury* (the confluence of the river Ury with the Don), and numerous other cases. Both *inver* and *aber* occur in Scotland, but *inver* is not found in Wales, nor *aber* in Ireland.

Kill, or *cill*, a church. *Kill* is the well-known prefix to a vast number of Irish names. It is also common in Scotland (*Kilsyth* and *Kilwinning* are examples). *Cil* is of not unfrequent occurrence in Wales; thus, *Cil-y-cwm*, in *Caermarthenshire*, in the valley of the *Towy* river.

Lin, *linn*, *lynn*, a deep pool, a lake. Of common occurrence both in Scotland and in Wales.

L'an, a spot cleared for public meetings; an enclosure; a church, or town with a church. Welsh geography offers a vast number of examples.

Maen, a stone or rock. As in *Pen-maen-mawr*.

Mawr, or *more*, great. As *Ben More*, the great mountain; *Glenmore*; *Strath-more*, &c.

Nant, a vale: as *Nant-glyn* (*Denbighshire*); *Nantwich*, &c.

Slieve, or *slibh*, a mountain: examples abound in Ireland, as *Slieve Bloom*, &c.

Strath, or *ystrad*, a valley near the confluence of two rivers, or lying along the course of a river. *Ystrad* is common in the geography of Wales, as *strath* is in that of Scotland. The Scotch *straths* are found either within the Celtic area—i.e. within the Highlands, or else within the border-district between the Highland and the Lowland region.

Tar, *tarbet*, a promontory; a point over which a boat could be drawn: the coasts of Scotland supply several examples. *Tarbet* (or *Tarbert*) also appears on the western side of Ireland.

Uisge, water. This appears, in the form of *Esk*, in the instance of numerous streams in Britain, especially within the hilly portions of the Scotch lowlands. The North and South *Esk* of *Forfarshire*, the like streams of *Mid-Lothian*, the *Esk* of *Dumfriesshire* and *Cumberland*, and the North *Yorkshire Esk*, are examples. The *Wiske* of *Yorkshire*, and the *Usk*, or *Wysg*, of *South Wales*, have the same origin; as also, through the medium of *isca*, the Latinised form of the Gaelic *uisge*) have the rivers *Ex* and *Axe*.*

* Hence *Isca Silurum* (*Caerleon*), beside the stream of the *Usk*—*uisge*, or water, of the *Silures*; and *Isca Dumnoniorum* (*Exeter*) similarly situated with respect to the *Ex*, or *uisge*, of the *Dumnonii*, or

The following are among the forms which enter most commonly into Anglo-Saxon geography:—

Beck, a brook; more frequent in the north of England than in the south, at least in the present day. It represents the German *bach*.

Beorh, *burgh*, or *borough*, a fortified place, stronghold, or town (the German *burg*). Names ending in *burgh*, or *borough*, are found throughout Britain, from the coast of Devon to the Murray Firth. There are none in Cornwall, and very few (if any) either in Wales, or in the extreme north and west of Scotland.

Burn, or *bourn*, a stream.

Den, a valley, a pasture-ground. Names with this terminal are particularly numerous in Kent (Tenterden, &c.), and are also common in many other parts of England.

Eg, or *ea*, an island. Orkney, Guernsey, Anglesey, are examples. So also is Mersea Island, on the coast of Essex. *Eye*, or *œ*, is also Scandinavian.*

Fleet, a shallow stream.

Ford, a place of passage over a stream, as *Ox-ford*, &c.: common in every part of England.

Ham, or *home*, an enclosed space, a home. One of the most common terminals of English geography (Nottingham, &c.).

Holme, a river-island (i.e. an island enclosed between the two arms of a stream). The Isle of Axholme, in Lincolnshire, is an example.

Holt, a wood; as in Alice Holt Forest, Hampshire.

Hurst, a wood, copse, or forest. Names compounded partly of *hurst* abound in Sussex (Midhurst, &c.) and the adjacent parts of Kent and Surrey—i.e. the tract of country known as the Weald, covered, in Saxon times, with almost unbroken forest.

Hythe, a low shore, a landing-place for ships.

Law, a detached mount or hill, frequent in lowland Scotland.

Mark, or *march*, a boundary. The border-tract of Wales was known as the Welsh marches.

Strad, or *sted*, a place or station: the German *stadt*. As *Hampstead*, &c.

people of Devon and Cornwall. Our earlier English names are in great measure based upon a river system. "History and tradition, supported by the great variety of Celtic words indicative of water, show that the haunts of the Celts, and their habits, were mainly connected with the streams"—Brewer: *Historical Atlas*. The river-names of Europe at large instance the same truth, upon a more extended scale.

* Thus, *Sudoreys*, the Southern Islands (or Hebrides), formerly united under the same sovereignty as the Isle of Man—whence the appellation "Sodor and Man."

Stoc, stoke, or stow, a place. As Basingstoke, &c.

Stour, i.e. *stör* or *great*, applied as an epithet of comparative size. Hence, in the case of rivers, *Stour*, the greater stream, by comparison with some adjacent stream of less magnitude.*

Thorp, or throp, a village. *Milnthorp, &c.* *Thorp, or thorpe*, is also Scandinavian.

Ton, or tun, an enclosed space, or town: all that is surrounded by a hedge or fence of any kind. It is in this restricted sense that the epithet of *town* is to be understood, in its early use.† A very large proportion of names within the Anglo-Saxon area exhibit this word, in various combinations, as *Newton* (or *Newtown*), *Sutton, &c.*‡

Weald, a wood.

Werth, or worth, a manor. As *Rickmansworth, Isleworth, &c.*

The following point to a Scandinavian origin: —

By, or bye (Danish), a dwelling. This form abounds in Lincolnshire, as in *Grimsby, &c.* It is also of frequent occurrence within the East and North Ridings of Yorkshire. *Whitby* and *Hunmanby* are examples in the latter county. Names ending in *by* are only of common occurrence within those two counties, and especially the former.§ To the southward, their limit is marked by the fens. The course of Danish inroad and settlement, towards the interior, may be traced by their occurrence. *Derby* and *Rugby* are instances.|| *By* and *bygh* are found on, or not far removed from, the coast, upon the west as well as the east side of the island. *Denbigh*, in North Wales, and *Tenby*, in Pembrokeshire, are examples. Names ending in *by* are numerous in Cumberland and Westmoreland.

* Several English rivers have the name of *Stour*. There is one in Kent; another on the borders of Essex and Suffolk; a third in Dorset; a fourth in Worcestershire; and a fifth on the border of Warwick and Gloucestershire.

† "It is thus (says Mr. Kemble) capable of being used to express what we mean by the word *town*, viz.: a large collection of dwellings; or, like the Scottish *town*, even a solitary farm-house."

‡ They are most numerous in the counties of York, Norfolk, Lancaster, Lincoln, Chester, and Somerset — least so in Cornwall, which has only eight, out of a total of nearly three thousand in England and Wales.

§ There are nearly 200 places ending in *by* (*Grimsby, &c.*) within the county of Lincoln, and half that number in the West Riding of Yorkshire. In Kent there is not one.

|| Both *Derby* and *Whitby* had earlier Saxon names. The former was *Northweorthing*: the latter, *Streoneshalch*. *Derby* was one of the five burghs recovered by *Ethelfleda*, the daughter of *Alfred*, from the Danes.

Dale, a valley: the Scandinavian *daal*. This is found throughout the Scotch lowlands (Tweeddale, &c.), and in the north and north-west of England, within the Cumbrian mountain region, the Pennine range, and the adjacent area. All the high valleys of the Cumbrian mountains are *dales*, as Borrow-dale, Wast-dale, &c.

Fell, a mountain; the Norwegian *full*, *fjell*, or *feld*. The Cumbrian mountains, and lowland Scotland, offer numerous examples, as Scaw-fell, Cross-fell, Crif-fell, &c.

Firth, an estuary: the Scandinavian *fjord*. The firths on the east side of Scotland are well known. The two or three that occur on the west coast of Britain adjoin the lowland area.*

Force, a waterfall: Scandinavian *foss*. Common in the lake district of Cumberland and Westmoreland, as Scale Force, Airy Force, &c.

Garth, a large farm. Several instances occur in Cumberland.

Gate, *gat*, *gap*; a way, road, path, or passage. Scarf Gap and other examples occur in Cumberland.

Gill, a small stream. This term, of Icelandic origin, is common in the mountain district of Cumberland and Westmoreland.

Ness, *næs*, or *naze*, the nose or projection of the land. The Naze, in Essex, is an example. Ness is a well-known form in the geography of North Britain—confined, however, to the eastern coast.

Rigg, a mountain ridge. The Cumbrian lake-district again supplies examples, as Loughrigg, near Ambleside; and Castle-rigg, in the neighbourhood of Keswick.

Thwaite, an isolated piece of land. Names of places ending in *thwaite* are of frequent occurrence in Cumberland, as Esthwaite, &c.: also, though less numerous, in Yorkshire, chiefly within the West Riding.

Toft, a field.

With, a forest.

The following are of Latin derivation, and point to the period of Roman dominion:—

Chester, or *cester* (Saxon, *ceaster*), from *castrum*, a camp. The

* The inlets on the west coast of North Britain are almost exclusively lochs: those on the east coast as uniformly *firths*. The former has always been, as it remains to the present day, the abode of an exclusively Celtic population, excepting towards the south, where Saxon and Scandinavian elements prevail. The Solway Firth has Criffel immediately adjacent to its waters; and other names of Scandinavian origin are found either on or near its shores, as Allonby, Flimby, &c.

lists of Roman towns given in a preceding chapter furnish numerous instances.

Coln (the Latin *colonia*), a colony; as Lincoln, &c.

Street (from the Latin *strata* — i.e. *via strata*, a paved way), often found in the case of villages that stand upon the line of the old Roman highways.

Wick, or *wich* (the Latin *vicus*), a village; as Greenwich, &c.*

An attentive examination of the respective proportions in which the prefixes and terminals given in the above tables are distributed over the map of Britain, with reference to their greater or less predominance in particular parts of the island, serves to illustrate, in no unimportant measure, the records of its earlier history. Celtic names predominate in the west and north, and are found scattered, in greater or less abundance, throughout the island, especially in the case of natural features, as rivers, mountains, and their enclosed valleys. The general predominance of Saxon names, as applied to the dwellings of man, is strikingly shown in the numerous places ending in *ton*, found nearly throughout South Britain and lowland Scotland — most numerous so within the more level regions of the east and centre, and becoming scarce within the hilly tracts that adjoin the western and south-western coasts. Thus, of names of towns and villages ending in *ton*, there are in the West Riding of Yorkshire, 172; in the North Riding, 180;† and in the East Riding, 126. In the county of Norfolk, there are, of places ending in *ton*, 192; in Suffolk, 98; in Lincoln, 140; in Nottingham, 94; in Northampton, 95; in Leicester, 101; in Staffordshire, 83; in Lancashire, 151; in Cheshire, 169; in Gloucestershire, 135; in Wiltshire, 107; and in the county of Somerset, 156. In Cornwall, on the other hand, there are but nine such names; and in Monmouthshire,

* *Wich* (or *wyche*), applied to the salt-springs, as in Nantwich, Northwich, Middlewich, and Droitwich, is a different word, and of Celtic origin.

† Such names are found most numerous within the vale of Cleveland — i.e. to the northward of the high region of the Eastern Moors, and towards the Durham border.

no more than 10. Names ending in *ton* are greatly more numerous than any other form of terminal which appears in Anglo-Saxon geography, and everywhere indicate the undoubted presence of a Teutonic race.*

Of names ending in *ham* we find a marked predominance in the eastern and south-eastern counties. Thus, of such names there are in Norfolk, 171 (Aylsham serves as an example); in Suffolk, 91; in Lincoln, 48; in Essex, 31; in Kent, 47; in Sussex, 36; in Surrey, 29. Of such names, Cumberland has only 6; Westmoreland, 5; Cornwall and Monmouth, each, 2; Stafford and Derby, each, 2; and Dorset only one.

Names ending in *hurst* are only common in Sussex, and the adjacent part of Kent. Of a total of 64 such names Sussex has 19; Kent, 10.

Names ending in *by*, as we have seen, predominate in Lincolnshire, and are numerous in Yorkshire, especially along the course of the Humber, the banks of the Ouse, and the affluents of that river. They also occur numerously in the county of Leicester, and are traced thence inland, though in diminishing numbers, through Nottinghamshire and Derbyshire on the one side, and the counties of Northampton and Warwick on the other. Upon the opposite side of the island, they are most common in Cumberland and Westmoreland, and may be followed thence southward, through Lancashire, into Cheshire. Very few occur in Wales, and those mostly on or near the sea-coast.†

* These and other statements of like kind are derived from a Table given in the instructive preliminary matter appended to the Population Returns of 1851. The terminals *ton* and *ington*, given in separate columns in the Table referred to, are added together for the purposes of the text. Similarly, *ham* and *ingham* are treated under one heading, though separate columns are there allotted to them.

† Tenby, on the coast of Pembrokeshire, is a familiar instance. Off the western coast of the same county is Skokholm Island. Estuaries, and the river-valleys to which they lead, and especially those belonging to the drainage of the Humber, the waters of which so often gave entrance to the predatory keels of the Northmen, are (says Dr. Latham, by whom this subject has been incidentally treated, in various works) the localities in which we should naturally expect to find their traces most abundant.

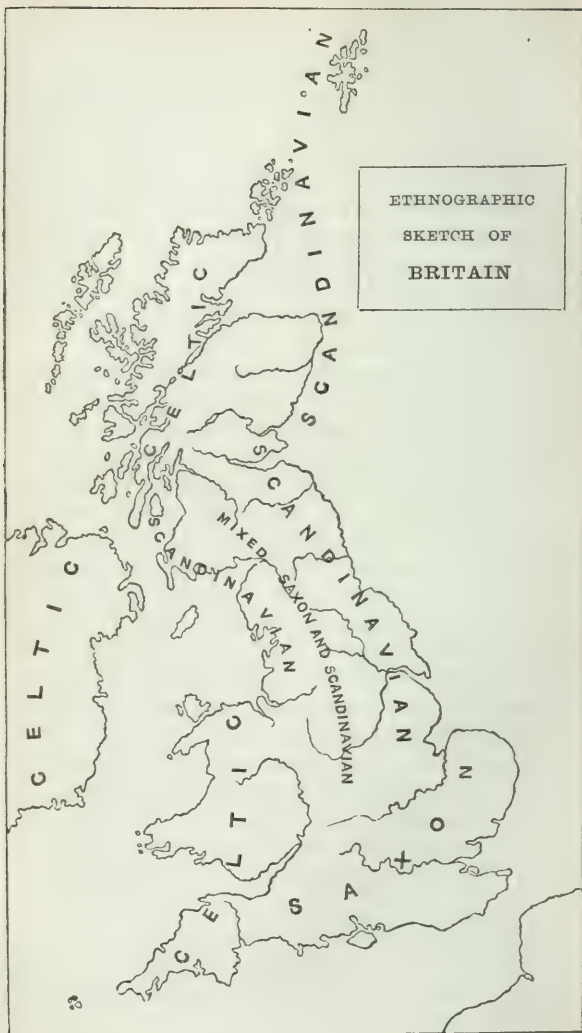
In the county of Lincoln, there are 195 such names; in the North Riding of Yorkshire, 95; in the East and West Ridings together, 65; in Norfolk, 22; in Leicestershire, 63; in the county of Northampton, 16; in that of Warwick, 3; in Nottingham, 15; in Derby, 5. In Cumberland, there are 42; in Westmoreland, 20; in Lancashire, 13; in the county of Chester, 9; in the whole of Wales, only 8. In the south-eastern, south-midland, western and south-western counties, they are scarcely met with. There is not a single one in the counties of Cambridge, Huntingdon, Bedford, Hertford, Middlesex, Surrey, Sussex, Southampton, Berks, Buckingham, Oxford, Worcester, Salop, Hereford, Wilts, Dorset, and Devon.

The aid to be drawn from considerations such as the above, in tracing the early settlement of nations, and in illustrating their movements during periods of early history, has been fully recognised. "Language (says Sir Francis Palgrave) adheres to the soil when the lips which spake are resolved in the dust. Mountains repeat and rivers murmur the voices of nations denationalised or extirpated in their own land."* The remark here made with reference to the geography of Norman France applies in greater or less measure to every country indicated on the map of the world, and to none more fully than to the countries of Western Europe. Thus, the geographical nomenclature of Spain would alone indicate the lengthened prevalence of Moorish dominion in the Iberian peninsula, even though written history were silent on the subject.†

Under the guidance of considerations of such a kind, derived from careful study of the names of places, and lending their aid to the known facts of history, we may venture to divide the map of Britain into a few great areas,

* History of Normandy and of England.

† The Arab *kasr*, or castle, *medinet*, or city, *wady*, a valley or water-course, appear in the numerous kazars and medinas of Spanish geography. A like origin is shown in the characteristic prefix to the names of so many Spanish rivers, as Guadalete, Guadiana, Guadalquivir (i.e. *Wady al-Kebir*, the great river), &c.



within each of which a Celtic, a Saxon, or a Scandinavian element of population, is in greater or less measure predominant; bearing in mind, in doing so, *first*, that a Celtic element underlies the whole; and in the *second* place, that a Teutonic element, immediately succeeding the first-named, is spread with more or less of uniformity over all parts of the island, excepting the mountain districts of the west, which are almost exclusively Celtic. The divisions thus marked out correspond, for the most part, to the great natural features exhibited in the physical geography of the island. Thus:—

1. The CELTIC area comprehends all Scotland to the west of Strath-more; i. e. the whole of the Highlands, excepting where evidence of Scandinavian settlement is found along the shores of the North Sea. This is the region of *bens* and highland lochs, of great mountains (Ben More), of glens, straths, and mountain streams, at the confluence of which latter with one another, or at their outfall to the sea, the inhabitants early fixed their dwelling-places. Wales falls within this area, as also do Cornwall and the chief part of Devon.

2. The SAXON area, properly so called, includes all the eastern, southern, and central portions of England, from the coasts of Norfolk and Suffolk to the border of Devon, and from the Channel to the valley of the Trent. Over a large portion of this area — especially towards the west — Saxon and Celtic names are mixed.

3. The SCANDINAVIAN area includes the eastern coast-district of England, from the shores of the Wash northward, and the western side of the same country from the Dee to the Solway Firth: with the greater part of lowland Scotland, and a narrow strip along the eastern side of that country (between the mountain region and the sea) northward to the extremity of the island. It comprehends, besides, the Orkney and Shetland islands, the southern Hebrides, the islands in the firth of Clyde, the Isle of Man, and portions of the Welsh coast.

4. The inland portions of Durham, York, and Lancashire, with the adjacent counties of the north-midland district,—i.e. the extensive plain of York and the southwardly division of the higher grounds which we have called the Pennine range,—may be regarded as a mixed SAXON AND SCANDINAVIAN AREA.

SAXON TOWNS. — The following list of towns, mentioned in the Saxon Chronicle,* is derived from Kemble's "Saxons in England."

Aigeles byrig, now Aylesbury.	Dofera, now Dover.
Acemannes ceaster, or Bathanbyrig, now Bath.	Dorceceaster,† now Dorchester (Oxford).
Ambres-byrig, now Amesbury.	Dorceceaster, now Dorchester (Dorset).
Andredesceaster, now Pevensey.	Eadesbyrig, now Eddisbury (Cheshire)?
Baddanbyrig, now Badbury (Dorset).	Eligbyrig, now Ely.
Badecanwyl, now Bakewell.	Eoforwic, now York.
Banesingtun, now Bensington (Oxon).	Exanceaster, now Exeter.
Bebbanburh, now Bamborough.	Exanmutha, now Exmouth.
Bedanford, now Bedford.	Genisburuh, now Gainsborough.
Beranbyrig (site unknown).	Glæstingaburh, now Glastonbury.
Bremesbyrig, now Bromsgrove?	Gleawanceaster, now Gloucester.
Brunnanburh (site unknown; perhaps Burgh, in Lincolnshire?).	Hæstingas, now Hastings.
Brycgnorth, now Bridgenorth.	Hagustaldesham, or Hagstealdesham, now Hexham.
Bucingaham, now Buckingham.	Hamtun, now Southampton.
Cantwarabyrig, now Canterbury.	Hamtun, now Northampton.
Cirenceaster, now Cirencester.	Heanbyrig, now Hanbury (Worcester).
Cissanceaster, now Chichester.	Heortford, now Hertford.
Cledemutha (site unknown).	Hereford, now Hereford.
Colnceaster, now Colchester.	Hrofesceaster, now Rochester.
Coludesburh, now Coldingham.	Huntenatun,‡ now Huntingdon.
Cyppenham, now Chippenham.	
Deoraby, now Derby.	

* The Saxon Chronicle extends over the period between the Roman invasion and the year 1154. The authorship of its earlier portions is generally referred to the time of Alfred.

† Dorchester, a few miles south-east of Oxford, was in Saxon times the site of a bishop's see, removed to Lincoln in the reign of William I.

‡ That is, as the name implies, originally a town or enclosed dwelling of hunters: in process of time, a city.

Judanbyrig, now Jedburgh?	Seletun, now Silton (Yorkshire).
Legaceaster (Caer-lejeon), now Chester.	Searoburh, now Salisbury.
Legraceaster, now Leicester.	Snotingham, now Nottingham.
Lindicoln, now Lincoln.	Soccabyrig, now Sockburn (Durham).
Lundenbyrig, or Lundenwic, now London.	Stæfford, now Stafford.
Lygeanbyrig, now Leighton-buzzard.	Stamford, now Stamford.
Mameceaster, now Manchester.	Sumerton, now Somerton (Oxford).
Mealdon, now Maldon (Essex).	Suthbyrig, now Sudbury (Suffolk).
Medeshamstede, now Peterborough.	Swanawic, now Swanwich (Hants).
Meldumesbyrig, now Malmesbury.	Temesford, now Tempsford (Bedford).
Merantun, now Merton (Oxford).	Thelweal, now Thelwall (Cheshire).
Middeltun, now Middleton (Essex).	Thetford, now the same.
Northamtun (or Hamtun), now Northampton.	Tofeceaster, now Towcester.
Northwic, now Norwich.	Tomaworthy,* now Tamworth.
Oxnaford, now Oxford.	Wæringawic, now Warwick.
Posentesbyrig (site unknown).	Weardbyrig, now Warborough (Oxford).
Rædingas, now Reading.	Wyngamere (site unknown). Probably in Hertfordshire.
Runcofa, now Runcorn.	Wygornaceaster, now Worcester.
Sandwic, now Sandwich.	Whitgabyrig, now Carisbrook.
Scargeat, now Scargate.	Wiltun, now Wilton.
Scheaftesbyrig, now Shaftesbury.	Wintanceaster, now Winchester.
Sceobyrig, now Shoebury (Essex).	Witham, now the same (Essex).

It is not to be imagined (says Mr. Kemble) that this list nearly exhausts the number of fortresses, towns, and cities extant in the Saxon times. It offers, however, many features of interest to the student of English topography in the present day, and its comparison with the list of principal towns in England, as they now exist, may serve to illustrate many truths connected with the re-distribution of the chief seats of population and social importance, consequent upon the modern growth of manufactures, and connected with the numerous points of difference between the social and political life of the ninth and the nineteenth centuries.

* A favourite residence of the Mercian kings.

CHAPTER VI.

NORMANDY.

GEOGRAPHY OF NORMANDY.—NORMANDY is a considerable province, situated upon the southern side of the channel by which England and France are divided. It forms a part of the last-named country, and immediately fronts the south coast of England.

Normandy stretches along the shore of the Channel* for a length of about 300 miles—measuring along the principal indentations of the coast—and reaches inland to an average distance of about 80 miles. Upon the east, the little stream of the Bresle divides it from Picardy; upon the west, it reaches to the head of a deep bight, formed where the line of coast, after trending for some distance in the direction of north and south, runs nearly due west (W. long. $1^{\circ} 30'$), and where the province of Bretagne begins. A line, for the most part artificial, forms its inland frontier, on the side of Maine, Perche, and the Isle de France.

The two most marked features of the coast of Normandy are, the peninsula which terminates in the capes of Barfleur and La Hague, and the estuary of the Seine. The former is known (in modern geography) as the peninsula of Cotentin. This projects considerably beyond the general line of coast, and fronts to the westward the dangerous waters—thickly studded with rocks and islets, and conspicuous for the rapidity and strength of their tidal currents—by which Jersey, Guernsey, and the adjacent islands are surrounded. A ridge of rocky and moderately elevated

* That is, the English (or British) Channel fBritish geography; La Manche (or the *Sleeve*) of the French.

ground extends through this peninsula, terminating in its north-westerly point, Cape la Hague.

The lower course of the river Seine, from the sea upwards to the tributary stream of the Epte, within less than forty miles of Paris, is within Normandy. Of numerous smaller streams, the Arques, to the eastward of the Seine, the Dives, the Orne, and the Vire, to the westward of that river, are the most noteworthy. All of these are mere rivulets, compared to the Seine; the Orne, which has a length of not much less than ninety miles, and which has the city of Caen upon its banks, is the most considerable of them.

In point of superficial aspect, soil, and climate, Normandy is among the most favoured portions of France. The valley of the Seine is diversified by undulating grounds, of moderate height, which in parts make near approach to the banks of the stream, and the province exhibits throughout a pleasing variety of surface.

Among the numerous towns and villages of Normandy, *Rouen* is by much the most considerable. It has in the present day upwards of 100,000 inhabitants. The importance of Rouen dates from an early period, and was doubtless due to its admirable situation, well adapted alike for the purposes of commerce and of defence against a foe. This, however, had not saved it from the successful assault of the Northmen, who added to its previous extent, and made it their metropolis. Rouen stands on the right bank of the Seine, 90 miles above the sea. It represents the Rotomagus of the Roman period.

Harfleur and *Honfleur*, now unimportant fishing towns, situated upon the opposite banks of the Seine, a short distance above its embouchure, possess some historical note, but both are in the present day greatly inferior in size and population to the flourishing seaport of *Havre* (properly le Havre de Grâce) at the mouth of the river. Havre ranks third amongst the commercial cities of modern France, and has 64,000 inhabitants. *Fécamp* and *Dieppe* are seaport towns, on the line of coast which stretches north and east from the Seine: Dieppe was early conspicuous as a place of trade.

Caen, an inland city, situated on the Orne (68 miles W.S.W. of Rouen), is second in size among the cities of Normandy. It ranked in former times as the capital of Lower Normandy, as the western division of the duchy is called. In the present day, Caen has

33,000 inhabitants. *Bayeux, Lisieux, Falaise*, and *St. Lo*, are among the smaller but thriving towns within Lower Normandy. Falaise was the birthplace of the Conqueror: the church of St. Stephen, in the city of Caen — his favourite place of residence — received his body after death. *Tenchebray*, formerly a place of great strength, before the walls of which Robert, Duke of Normandy, was defeated by his brother Henry (1106), is in the southern part of the duchy, 34 miles to the S.W. of Caen, and within the modern department of Orne, near its north-western border. Both Bayeux and Lisieux were of early origin, and had existed during the times of Roman dominion in Gaul.* *Evreux*, in the extreme south-east of the duchy (57 miles W.N.W. of Paris), is also of ancient date, and had witnessed the ferocity and strength of Norman valour, when sacked by the northern invaders in 891. Evreux has now a population of 13,000. *Alençon* (pop. 13,500), on the stream of the Sarthe, is within the southern border of Normandy, on the frontier of Maine.

Avranches, Coutances, Valognes, Cherbourg, and *Barfleur*, belong to the extreme west of Normandy. The second of them gives its name to the district of Cotentin, of which it was the capital. Cherbourg, on the northern shore of the Cotentin peninsula, has become distinguished as one of the chief naval arsenals of modern France. But the importance of Cherbourg is of recent growth: Barfleur, now an insignificant place, with a harbour that (partly from natural causes) has become closed to all but small fishing vessels, was long the chief port of Normandy, and became the most frequented point of intercourse between England and that province.†

THE NORMANS.—It was from the tract of country above referred to, that the Norman army, under Duke William (afterwards William I.), came to England, and defeated the Saxons in the battle of Hastings. The kings of England, for nearly the succeeding century and a half—i. e., from William I. to John — ruled also over Normandy, and the history of our country during that period is closely mixed up with that of the Norman people and the land to which they had given their name.

* The well-known Bayeux tapestry, which represents the various scenes in the conquest of England by the Normans, attests the skill of Norman female handicraft—(it is said to have been executed by the fingers of Matilda, wife of the Conqueror, and her attendant maidens)—and has given the town its best known distinction in modern times.

† It was upon the rocks off Barfleur that, in 1120, Prince William, the only son of Henry I., perished in the disastrous shipwreck of the *Blanche nef*.

Who were the Normans? Whence had they sprung? The Normans were *Northmen*—that is, natives of Scandinavia, the region whence sea-warriors and pirates, from an early period, had carried their ravages over the whole seaboard of western Europe. In the closing years of the ninth century, a party of these hardy northern rovers, under the leadership of Rollo, a Norwegian chieftain*, had sailed up the stream of the Seine, and, carrying their devastations to the very walls of the French capital, had obtained from the French king (Charles the Simple) a permanent cession of the fertile tract of country then known as Neustria. This province thence acquired, from themselves, the name of Normandy. The hardy Northmen, settled in this attractive region, under a warmer sky than that of their early home, adopted the usages, religion, and speech of the conquered race among whom they had come to dwell. They cultivated arts and letters, assumed a refinement of dress and manner—in superior degree to even that by which the French nation in general were distinguished; encouraged agriculture, trade, and the ordinary industrial pursuits of civilised life. Norman French became the most refined of modern languages, and Rouen, where the Norman dukes held their court, was the centre of literature and the polite arts of life. The hereditary valour of the Norman race was at the same time encouraged and maintained, and Norman skill and valour were conspicuous in every military contest.

Five generations of Northmen had been settled in the fertile province lying on the south of the Channel, when William duke of Normandy resolved on the conquest of England. The Normans were then among the foremost people of Christendom, and their influence was widely felt among surrounding nations. “Before the conquest, English princes received their education in Normandy; English sees and English estates were bestowed on Normans. The

* The Hrolf-ganger of Scandinavian legendary story—the latter epithet indicative of his physical prowess.

French of Normandy was familiarly spoken in the palace of Westminster." (Macaulay, *Hist. of England*.)

Edward the Confessor, the last reigning monarch of the Anglo-Saxon line of princes, was intimately connected, by family ties, with the Norman dukes. His father Ethelred had married the sister of Duke Richard of Normandy (the second of that name), and Edward himself, sent while in his boyhood to the court of his uncle for safety, while England was ravaged by the Danish king Sweyn, had passed twenty-seven years of his life in exile there. During the greater portion of those years, the sceptre of England was wielded by the vigorous hand of Canute, the Danish (as well as the English) king. Edward was therefore cousin to the Norman duke William, the natural son of Duke Robert and the grandson of Duke Richard II. Harold, the second son of Earl Godwin, who upon the Confessor's death stepped into the vacant throne of England, had no other connection with the royal family than was derived from the fact of Edward's marriage with his sister Editha.

William had succeeded to the inheritance of the Norman duchy in 1034. During a visit paid to England in 1051, he had caused himself to be named in the Confessor's will as heir to the Anglo-Saxon throne. Fortified by the sanction of the Church of Rome, he determined to make good his claim by force of arms.

The armament of the Norman Duke assembled at the mouth of the little river Dives, which, as we have seen, enters the Channel a short way to the eastward of the Orne.* During a month after it had been brought together, the winds were contrary and the Norman ships were detained in port. "Then a southern breeze carried them as far as the roadstead of St. Valery, at the mouth of the river Somme: there the bad weather recommenced, and it was necessary to wait some days. The fleet anchored, and the troops encamped upon the shore, greatly incommoded by the rain, which did

* A monument of recent erection (1861) at the little port of Dives, situated at the mouth of the river, commemorates the event.

not cease to fall in torrents."* William frequently watched the movements of the wind, as indicated by the weather-cock which surmounted the bell-tower of the Church of St. Valery. At daybreak of the 27th September, the sun shone out in all its splendour, and the wind was favourable. The camp was immediately raised, and the expedition sailed before sunset.

The Norman armament landed on the coast of Sussex, at Bulverhithe, between Pevensey and Hastings, on Sept. 28th, 1066. William occupied with his forces the old Roman castle of Pevensey.

The battle of Hastings was fought on October 14th, upon the ground now covered by the small town of *Battle*, a few miles to the north-west of Hastings. The place had previously been known by the name of Senlac. William erected there a magnificent abbey, in grateful commemoration of the great victory which had been vouchsafed to his arms. This was called, in the Norman (i.e. French) language, "l'Abbaye de la Bataille," or Battle Abbey.

The battle of Hastings decided the fate of the English nation. Within little more than two months of its date, William entered London, and on the ensuing Christmas day he was crowned King of England within the Abbey Church of Westminster—then a recent erection, due to the piety of Edward the Confessor.

Not that the whole of England—or even the larger portion of it—at once submitted to the victor of Hastings. Many a contest for Saxon liberty was maintained, in different parts of the kingdom, but in vain. One strong city after another—Exeter, Oxford, Warwick, Leicester,

* Thierry: Hist. of Conquest of England by the Normans. Two small towns bearing the name of St. Valery are found upon the coast of northern France—one of them situated a short distance to the westward of Dieppe (distinguished as St. Valery *en Caux*, from the old provincial district of that name), the other lying at the mouth of the river Somme. The last-mentioned—St. Valery sur Somme—was beyond the limits of Normandy, but there is no doubt, notwithstanding, that it represents the port from which the armament of William sailed.

Nottingham, York — yielded to the arms of the Conqueror. The temporary success of the insurgent Northumbrians, aided by a Danish force, in 1069, gave the Norman King a pretext for laying utterly waste, with remorseless barbarity, the extensive vale of York, the most fertile portion of the north of England. "From York to Durham not an inhabited village remained. Fire, slaughter, and desolation, made a vast wilderness there, which (wrote the monkish historian, William of Malmesbury, eighty years after the event) continues to this day." From Durham north to Hexham, from the Wear to the Tyne, the same work of destruction was pursued — with pestilence and famine as the natural result.

The swamps of Cambridgeshire and the adjoining counties — i.e. the district of the fens — were the localities within which Saxon opposition to Norman rule was longest maintained, and with largest measure of success. The "camp of refuge," established by the brave Hereward, within the Isle of Ely, was only reduced by means of a severe blockade maintained by the Norman King until its defenders were brought to the extremity of famine. The abbeys of Ely, Peterborough, Thorney, and Croyland, stood within or adjacent to this tract of country, and conferred something of sanctity upon it in Saxon regards.

One of the most noteworthy events of the Conqueror's reign was the compilation of Domesday Book — a general survey of the lands of England which he caused to be made. The compilation of Domesday was commenced in 1084, and completed in 1086, the information which it embodies having been collected by justiciaries or commissioners appointed for the purpose. The results attained by this laborious undertaking were — an exact knowledge of the possessions of the Crown : a complete list of all landowners : a means of exactly ascertaining the military strength of the country : a knowledge of the extent to which the revenue might, if necessary, be increased : and, lastly, the possession

of a register of appeal in cases of disputed property. Domesday was thus not a Census, nor does it even furnish the material for any precise estimate of the population at the period, though it includes incidentally many of the details which a modern census embraces.*

Five of the six northern counties of England — Northumberland, Durham, Cumberland, Westmoreland, and Lancashire, together with Wales and Monmouthshire, are not comprehended within the records of Domesday Book. The total amount of population which it gives for the counties, with these exceptions, is as follows:—

Bedfordshire . . .	3,875	Herefordshire . . .	5,368
Berkshire . . .	6,324	Hertfordshire . . .	4,927
Buckinghamshire . . .	5,420	Huntingdonshire . . .	2,914
Cambridgeshire . . .	5,204	Kent . . .	12,205
Cheshire . . .	2,349	Leicestershire . . .	6,772
Cornwall . . .	5,438	Lincolnshire . . .	25,305
Derbyshire . . .	3,041	Middlesex . . .	2,302
Devonshire . . .	17,434	Norfolk . . .	27,087
Dorsetshire . . .	7,807	Northamptonshire . . .	8,441
Essex . . .	16,060	Nottinghamshire . . .	5,686
Gloucestershire . . .	8,366	Oxfordshire . . .	6,775
Hampshire . . .	9,032	Rutlandshire . . .	862

* The mode of compiling Domesday was this. The inquisitors, upon the oath of the sheriff, the lords of each manor, the presbytery of every church, the reeves of every hundred, the bailiff and six villeins of every village, were to enquire into these several particulars; the name of the place, who held it in the time of King Edward, who was the present possessor, how many hides there were in the manor, how many carrucates in the demesne, how many homagers, how many villeins, how many cotarii, how many servi, what free men, how many tenants in soccage, what quantity of wood, how much meadow and pasture, what mills and fish-ponds, how much added or taken away, what the gross value in King Edward's time, what the present value, and how much each freeman and socman has or had. All was to be triply estimated — first, as the estate was held in the time of the Confessor; second, as it was bestowed by King William; thirdly, as its value stood at the formation of the survey. The jurors were also to state whether any advance could be made in this value — an important instruction, which reveals what was no doubt the main purpose of the whole work. The descriptions of land mentioned in Domesday are—terra, arable land; planum, open country; silva and nemus, wood; pasuagium, feeding of hogs; pastures, pasture; pratum, meadow land; maresc or mora, marsh or fen; vineyards, of which 38 or more are enumerated, few of the great monasteries appearing to have been without them; with mills, salt-work, iron and lead works, stone quarries, and fisheries. — (Rev. Thos. Hugo, in paper read before London and Middlesex Archaeolog. Society, 1860.)

Shropshire . . .	5,080	Sussex . . .	10,410
Somersetshire . . .	13,764	Warwickshire . . .	6,574
Staffordshire . . .	3,178	Wiltshire . . .	10,150
Suffolk . . .	20,491	Worcestershire . . .	4,625
Surrey . . .	4,383	Yorkshire . . .	8,055

The numbers here given cannot be taken as representing the actual total populations of the several counties, in the time of the Conqueror. The low number given for Middlesex, the inhabitants of the metropolis being evidently not taken into account, sufficiently shows this. Yet the numbers given for the different counties no doubt represent correspondent elements in each, and their comparison affords many points of instruction. The counties of Lincoln and Norfolk seem to have had then a larger population than any others. The small number given for the county of York is accounted for by the desolation which that portion of England had recently undergone at the hands of the infuriated king.

The towns were then of small size. The city of York appears from the statements in Domesday to have contained only 1,418 families. Norwich had 738 houses; Exeter 315; Ipswich 538; Northampton 60; Hertford 146; Canterbury 262; Lincoln 1,070.* Norwich, in the time of the Confessor, had been one of the chief cities in the kingdom. York is estimated to have had 10,000 inhabitants at the time of the Conquest. London had probably at least three times that number.

The Anglo-Saxons seem to have paid comparatively little regard to walled towns. The fortified cities of the Roman period had in many instances been allowed to fall into decay. A certain rude strength belonged to the dwelling of the Saxon landowner—generally a building of wood, surrounded by a ditch or moat, and around which the hovels of his cotarii, or vassals, were clustered.

The life of the Saxons was, however, essentially a country

* See Hume: Hist. of England, Appendix I. The figures given in the above list of counties are derived from the notes accompanying Professor Brewer's Atlas of History and Geography.

life, and one to the requirements of which the military appurtenances of the fortresses which the Romans had left behind them were ill adapted. The strength of the Saxon nation was not employed, as that of the Roman legionaries had been, in the construction of great military works or in the defence of castellated walls. The towns of the Saxons had (says Mr. Kemble)* a totally independent origin, and one susceptible of an easy explanation. "The fortress required by a simple agricultural people is not a massive pile with towers and curtains, devised to resist the attacks of reckless soldiers, the assault of battering-rams, the sap of skilful engineers, or the slow reduction of famine. A gentle hill crowned with a slight earthwork, or even a stout hedge, and capacious enough to receive all who require protection, suffices to repress the sudden incursions of marauding enemies, unfurnished with materials for a siege or provisions to carry on a blockade. Here and there such may have been found within the villages or on the border of the Mark, tenanted perhaps by an earl or noble with his comites, and thus uniting the characters of the mansion and the fortress: around such a dwelling were congregated the numerous poor and unfree settlers, who obtained a scanty and precarious living on the chieftain's land; as well as the idlers whom his luxury, his ambition, or his ostentation attracted to his vicinity. Here too may have been found the rude manufacturers whose craft supplied the wants of the castellan and his comrades; who may gradually and by slow experience have discovered that the outlying owners also could sometimes offer a market for their productions; and who, as matter of favour, could obtain permission from the lord to exercise their skill on behalf of his neighbours. Similarly around the church or the cathedral must bodies of men have gathered, glad to claim its protection, share its charities, and aid in ministering to its wants."

There remain in the present day but few evidences of the interior arrangements, as to local distribution of buildings,

* The Saxons in England: book 2, chap. vii.

by which the towns of our Anglo-Saxon forefathers were distinguished. Some few hints, however, are supplied, which enable us to form a faint image of what an Anglo-Saxon town may have been. "It is probable (says the authority already quoted) that the different trades occupied different portions of the area, which portions were named from the occupations of their inhabitants. In the middle ages these several parts of the city were often fortified and served as strongholds, behind whose defences, or sallying forth from which, the crafts fought the battle of democracy against the burgesses or the neighbouring lords. We have evidence that streets, which afterwards did, and do yet, bear the names of particular trades or occupations, were equally so designated before the Norman Conquest, in several of our English towns. It is thus only that we can account for such names as Fellmonger, Horsemonger and Fleshmonger, Shoewright and Shieldwright, Tanner and Salter Streets, and the like, which have long ceased to be exclusively tenanted by the industrious pursuers of those several avocations. Let us place a cathedral and a guildhall with its belfry in the midst of these, surround them with a circuit of walls and gates, and add to them the common names of North, South, East and West, or Northgate, Southgate, Eastgate and Westgate Streets—here and there let us fix the market and its cross, the dwellings of the bishop and his clergy, the houses of the queen and perhaps the courtiers, of the principal administrative officers and of the leading burghers—above all, let us build a stately fortress, to overawe or to defend the place, to be the residence of the geréfa and his garrison, and the site of the courts of justice—and we shall have at least a plausible representation of a principal Anglo-Saxon city."

Indifference to walled cities, and their comparative neglect as an element of national strength, has always been, as it probably always will be, an element of the Anglo-Saxon character. Some of the Saxon towns, however, were fortified. The Normans built castles in every corner of the

island; but as the Saxon element in our population regained its supremacy, many of these fortresses were either intentionally dismantled, or allowed to fall into decay. In the early part of the thirteenth century there are said to have been upwards of eleven hundred castles in England.* In Shropshire alone there were twenty-four. These were chiefly border fortresses, built as a means of protection against incursions along the extended line of the Welsh frontier. Only two of the number were in existence when Domesday was compiled, and none were built after the conquest under Edward I.

* Hume, ii. 156.

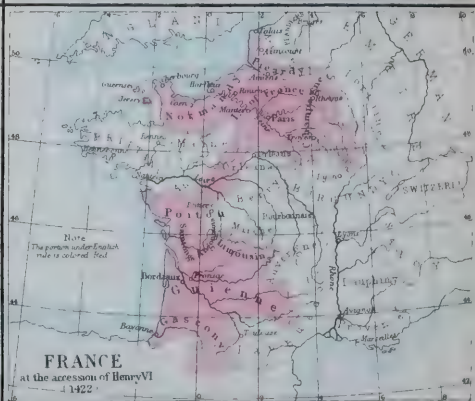
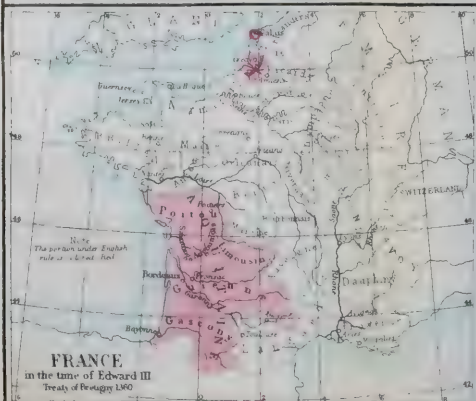
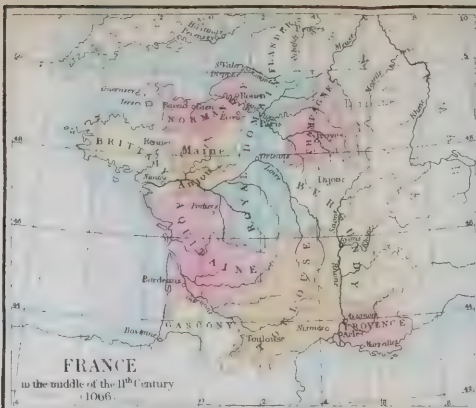
CHAPTER VII.

CONTINENTAL DOMINIONS OF THE NORMAN KINGS OF ENGLAND.

THE victory of Hastings placed a Norman duke upon the English throne. During the ensuing century and a half, England and Normandy were ruled by one sovereign; other portions of continental territory, greatly more extensive in area than Normandy, were long under the same common sway. The so-called history of England, during this period, is in great measure the narrative of events that occurred upon the French side of the Channel. It hence becomes necessary, alike for the purposes of history and of geography, to look at those portions of modern France which were so long attached to the crown of England.*

FRANCE.—In the early part of the ninth century, the whole of what constitutes modern France had fallen within the empire of Charlemagne. But the division of power which took place upon the death of that monarch, and the struggles of war and policy which everywhere ensued, speedily broke up in minute fragments the vast aggregate of provinces which his empire had embraced. France exhibits a conspicuous instance of this division. In the early part of the tenth century, the fairest portion of

* "During a century and a half which followed the Conquest (says Macaulay), there is, to speak strictly, no English history." The Norman kings of England rose indeed to an eminence which became the wonder and the dread of neighbouring nations. But the English nation had little share in this greatness. "The Conqueror and his descendants to the fourth generation were not Englishmen; most of them were born in France; they spent the greater part of their lives in France; their ordinary speech was French; almost every high office in their gift was filled by a Frenchman; every acquisition which they made on the continent estranged them more and more from the population of our island."



* N. Hughes del^d

Neustria was given up to the piratical warriors of the north. Normandy became thence a distinct state, with only feudal dependence upon the crown of France. Burgundy and Aquitaine became sovereign duchies less than half a century later in date. Lorraine followed. Flanders in the north, and Champagne in the north-east, constituted in like manner separate earldoms. The people of the north-western peninsula, Brittany, had from the time of the Merovingian kings been governed by their own dukes. In the south, Gascony and Toulouse became in great measure independent of the crown, the former under a ducal house, the latter under the powerful counts of that name. The country lying east of the Rhone, between that river and the crest of the Alps, was formed into two kingdoms, afterwards united into a single kingdom, which derived its name from the city of Arles. The Royal Domain of France comprehended, in the eleventh century, only the middle portions of the valleys of the Seine and Loire, i.e. the tract known as Isle de France, with the adjacent provinces of Orleanais, Berry, and Touraine.* It was not until the close of the fifteenth century that, with the break up of the feudal system, the different appanages of the French crown were united, and France became consolidated into a great kingdom.

The portions of France that, under various tenures, and at various periods between the date of the Norman Conquest and the reign of Edward III., were attached to the

* Hallam: Middle Ages. At the accession of Hugh Capet (987) six great vassals divided between them the chief part of the kingdom, and controlled the authority of the crown. These were "the Count of Flanders, whose fief stretched from the Scheldt to the Somme; the Count of Champagne; the Duke of Normandy, to whom Brittany did homage; the Duke of Burgundy, on whom the Count of Nivernais seems to have depended; the Duke of Aquitaine, whose territory, though less than the ancient kingdom of that name, comprehended Poitou, Limousin, and most of Guienne, with the feudal superiority over the Angoumois and some other central districts; and, lastly, the Count of Toulouse, who possessed Languedoc, with the small countries of Quercy and Rouergue, and the superiority over Auvergne."

English crown, consisted of:—1. NORMANDY; 2. MAINE; 3. ANJOU; 4. TOURAINE; 5. POITOU; 6. AQUITAINE (comprehending, with the extensive provinces of Guienne and Gascony, the adjoining districts of Saintonge, Angoumois, Limousin, the Marche, and Auvergne); and 7. BRITTANY. These territories, even excluding the last named, the dependence of which, except for a brief period, was merely nominal, together comprehend more than half the area of modern France.

1. NORMANDY, the geographical features of which have been already described, was the inheritance of Duke William, the victor of Hastings, and the first of the Norman kings of England. It remained attached to the crown of England for nearly a century and a half, when (A.D. 1207), during the imbecile reign of the English king John, it was reunited to the French crown by the successful arms of Philip Augustus, who then sat on the throne of France. The city of Rouen, besieged by the French king, had opened its gates in 1205, and the example was shortly followed by other places within the duchy. France thus regained possession of the fertile province which above three centuries previously had been won by the valour and fortune of Rollo, the Scandinavian chieftain and pirate.*

2. The province of MAINE lies immediately to the south of Normandy. It slopes towards the basin of the Loire, and is watered by the streams of the Sarthe and Mayenne, tributaries of that river. Maine, previously ruled by its independent counts, had acknowledged the sovereignty of the Norman duke some years prior to the date of the invasion of England, and was afterwards (in 1073), completely subdued by the Norman arms. It passed, with Normandy itself, to the inheritance of the successors of

* The victories of Henry V., two centuries later, again attached to the crown of England all (and more than all) the continental dominions of the early Norman kings. This re-annexation was, however, of comparatively brief duration, and belongs altogether to a later period of English history.

William I. upon the English throne. Maine followed the fortunes of Normandy, and, with that duchy, was lost to the English crown during the reign of John.

The most important place in Maine, and its former capital, is *Le Mans*, an ancient town, with 27,000 inhabitants, situated on the river Sarthe, in the centre of the province. It was the birth-place of Henry II. *Laval* and *Mayenne*, both situated on the Mayenne, are small towns—the former of some historical note—within the province.

3. ANJOU, to the southward of Maine, is watered by the river Loire, which flows through its midst. It extends along the banks of that river for a distance of 70 miles. Upon the right (or northern) bank of the Loire, the lower portions both of the Sarthe and the Mayenne have their course within Anjou.

The earldom of Anjou was the inheritance of Henry II., the first Plantagenet king of England.* With the accession of that able sovereign to the throne, Anjou (and with it the dependent province of Touraine) became added to the other continental possessions of the English kings. Like the provinces already noticed, it was lost under the feeble reign of John.

Angers, a manufacturing city of modern France, with 43,000 inhabitants, was the former capital of Anjou. It stands on the Mayenne, a short distance below its junction with the Sarthe, and 5 miles above the point where the united streams fall into the Loire. Angers has considerable historic note. One of its hospitals owes its foundation to Henry II. Its university, founded in the thirteenth century, and destroyed during the revolution, long enjoyed considerable reputation. Margaret of Anjou, the masculine consort of Henry VI. of England, was interred within the cathedral of Angers.

4. TOURAINE lies to the eastward of Anjou. Like that territory, it is watered by the Loire, which receives the tributary streams of the Cher, the Indre, and the Vienne, within its limits. Touraine is highly distinguished for its fertility, and is regarded as one of the most favoured portions of France. It constituted a dependent possession

* Henry's father was Geoffrey, Earl of Anjou, who had married Matilda, the daughter of Henry I.

of the counts of Anjou, and followed the fortunes of that territory in its relationship with the English crown.

Tours, which gave its name to the territory, is historically among the most important of French cities. It enjoys a considerable share in the manufactures and commerce of modern France, and has above 33,000 inhabitants. *Tours* stands on the south bank of the *Loire*, upon a tongue of land which lies between that river and its tributary the *Cher*. Its silk manufactures, though flourishing, are now much less considerable than at a former period.* *Tours* was the chief place within the district of the *Turones*, a Gallic nation, and became afterwards the metropolis of the Roman province of *Lugdunensis Tertia*. Its cathedral of *St. Martin* (of which only two towers remain) was one of the chief ecclesiastical edifices of the sixth century. *Luitprande*, the Queen of *Charlemagne*, was interred within it. *Plessis-les-Tours*, the famous residence of *Louis XI.* of France, is within a short distance of this city. *Loches*, a small town lying 14 miles SE. of *Tours*, is of some historical note.

Anjou and Touraine, joined to Normandy and Maine, formed a considerable accession to the extent of continental territory which belonged to the Norman kings of England. But these provinces by no means represent the whole extent of the additions which the first Plantagenet king made to the territory over which his predecessors on the English throne had ruled. Little more than a year previous to his becoming, by the death of *Stephen*, undisputed sovereign of England, *Henry* had married *Eleanor*, the divorced queen of *Louis VII.* of France, and with her had acquired sovereign rule over the extensive earldom of *Poitou*, and the yet larger duchy of *Aquitaine*, both of which belonged to her by inheritance from her father. These territories comprised the whole tract reaching from the *Loire* to the foot of the *Pyrenees*, and from the Bay of *Biscay* to the mountains of *Forez*.†

* The revocation of the edict of *Nantes* (A.D. 1685) deprived *Tours* of nearly half its inhabitants, and of nearly all its manufacturing industry. The silk-weavers of *Tours* colonised *Spitalfields*.

† With Normandy and England added to his prior possessions on the continent, *Henry II.* became the most powerful prince of his age. The continental portion of his dominions was more important, in many regards, than the insular portion: for Normandy, Anjou, *Poitou*, and *Aquitaine*, were together of larger area than England, and probably had

5. POITOU.—Poitou is an extensive tract lying south of the Loire. The waters of the Bay of Biscay form its limit on the west: these are distant by above a hundred miles from its inland frontier, to the eastward. The river Vienne, which joins the Loire, and the two streams known by the name of Sèvre—one of them an affluent of the lower Loire, the other flowing, with a direct westerly course, into the Bay of Biscay—form its principal inland waters.

The old city of Poitiers, standing beside the little stream of the Clain, which joins the Vienne, gave its name to the province. Poitiers represents the Limonum of the Romans, the capital of the Pictavi, and possesses the remains of a vast Roman amphitheatre, capable of accommodating 20,000 persons. Its cathedral dates from the year 1152, and was founded by Henry Plantagenet (Henry II). Poitiers is most familiarly known in history from the victory which (A.D. 1356) the Black Prince gained in its vicinity over the French king.* In modern times, Poitiers is only of importance as the capital of a department: it has above 25,000 inhabitants. The town of *Mirebeau*, a small place, sixteen miles to the NW. of Poitiers, possesses historic note. It was while engaged in the siege of its castle that the hapless Prince Arthur, the heir of Brittany and claimant of the English throne, fell into the hands of his savage uncle John (A.D. 1202). *Niort* and *Fontenay*, both within Poitou, are of smaller size: the former, situated 42 miles SW. of Poitiers, is of some historic note, and was at one time the residence of Eleanor of Aquitaine, afterwards Henry II.'s queen.

Poitou, like the other English possessions in France, was lost under King John. The victories of Edward III. and the Black Prince recovered it to the English crown, to which it then remained attached until the final termination of English dominion in France under the reign of Henry VI. (A.D. 1452).

6. AQUITAINE.—The duchy of Aquitaine, during a large portion of the middle ages, embraced a territory of vast extent, in the south-west of France, and stretching besides a larger amount both of population and wealth. In truth, England really became, under Henry II., even more fully than under his Norman predecessors on the throne, an appanage of Norman France, and, though giving its name to the sovereignty of the whole, was itself of subordinate importance.

* It was on the plains between Tours and Poitiers, but nearer to the latter than to the former of those cities, which are upwards of seventy miles apart, that Charles Martel gained his famous victory over the Saracens, A.D. 732.

thence far into the central regions of that country. Gascony and Guienne, with the less extensive dependent provinces of Auvergne, the Marche, Limousin, Angoumois, Saintonge, and Aunis, fell within its limits. Within a range of country so extensive, the greatest diversity of features is found. Auvergne, Limousin, and the Marche, are a pastoral region, in great measure covered with wooded hills, and within which the principal streams that contribute their waters to the channels of the Loire and the Garonne have their origin. The Allier, the Cher, the Creuse, and the Vienne, all of which have a direction to the north and west, and finally join the Loire, flow in part through this territory. The Dordogne, Lot, and Tarn, which take their courses down its south-westwardly slope, belong to the basin of the Garonne.

But a still larger portion of Aquitaine consists of the less elevated (though for the most part undulating and diversified) region which is watered by the lower Garonne, the Dordogne, and, further to the northward, the Charente. To these rivers must be added the Adour, in the extreme south-west of the duchy.

The Garonne rises in the Pyrenees, and afterwards takes its course through the sunny plains of Gascony and Guienne — excepting only where its most eastwardly bend penetrates, for a brief interval, the frontier of Languedoc. The united waters of the Garonne and Dordogne, which join about fifty miles before reaching the sea, form the estuary of the Gironde. It is a few miles above the head of this estuary, and on the left bank of the Garonne, that *Bordeaux*, the famous capital of Aquitaine, is situated. It was at Bordeaux that the Black Prince—created Prince of Aquitaine by his father, Edward III.,—held for many years his court, and it was there that his son, afterwards Richard II. of England, was born. The importance of Bordeaux bears reference to nearly every period of French history, modern as well as mediæval. In the present day, with a population which exceeds 150,000, Bordeaux ranks fourth among the great cities of France, and commands an important share of the foreign trade of that country — especially of the export trade in wines, for which its position renders it the natural outlet.

The Bordelais (as the tract of country lying round Bordeaux is

called), falls within the western portion of Guienne. In the middle and eastward divisions of that province are *Perigueux*, *Agen*, *Cahors*, *Rodez*, and numerous other places of provincial note, many of them of Roman origin.

Gascony is to the south and south-west of Guienne. It includes the valley of the river Adour, which, deriving its waters from the Pyrenees, makes a considerable circuit before its termination in the Bay of Biscay. None of the cities of Gascony are of any considerable note. *Tarbes*, *Auch*, and *Mont de Marsan*, are amongst their number. Auch, the former capital of the Ausci, a Gallic nation, stands on the river Gers, which joins the Garonne. Tarbes, on the Adour, the former capital of the Counts of Bigorre, is also ancient; the Black Prince at one time held his court there. *Bayonne*, in Lower Gascony, stands a few miles above the mouth of the Adour, at the point where it is joined by the little stream of the Nive.

Angoumois and Saintonge, to the northward of Guienne, are watered by the Charente — a river which gives its name to two of the departments of modern France, and which, after a course of 200 miles, enters the Bay of Biscay. Aunis, a maritime province, of small extent, immediately adjoins the lower Charente, chiefly to the northward of that river, and is fronted by the isles of Ré and Oléron.

Angoulême, the capital of Angoumois, and the former residence of the counts who bore that title, stands on the upper Charente. In modern French geography, it has about 20,000 inhabitants, and is distinguished for its numerous paper mills. *Cognac*, the centre of the brandy trade, is within the same province, to the westward of Angoulême, and also on the Charente river.

Saintes, the capital of Saintonge — standing above the left bank of the lower Charente — is distinguished by its numerous Roman remains, as well as by many monuments of the mediæval period. Its cathedral dates its foundation from the time of Charlemagne, though the original edifice has long ceased to exist.

The province of Aunis includes the ports of *Rochefort* and *La Rochelle* — the former on the little estuary which the Charente forms at its mouth, the latter further to the northward. Both are of ancient origin. The historic greatness of La Rochelle belongs to a later period than that to which we are now referring.

The provinces described above, under the general designation of Aquitaine, are distinguished by a sunnier sky, and a warmer atmosphere, than belong to the north, or even middle of France. This is especially the case with the seaward division of Guienne, and the adjoining provinces

of Saintonge and Angoumois — that is, the valleys of the Charente and the lower Garonne. This is the region of the vine culture. The extensive orchards, their trees laden with numerous varieties of the plum and other fruits, and the abundant crops of corn, attest the rich soil and favourable climate of the ancient principality so long attached to the Crown of England.

Aquitaine had been added to the possessions of the English crown by Henry II., and it remained under English dominion long after the other continental possessions of the kings of England had been lost. When Edward III. mounted the throne, Aquitaine alone remained of the French provinces formerly ruled by the Plantagenet kings, and some portion, at least, of the extensive territory which had borne that name remained English down to the middle of the 15th century. The larger part of what had constituted the Black Prince's dominions had, indeed, been regained by France even before the reign of Edward III. came to its close, but portions of Guienne and Gascony continued attached to English rule down to the time when, under our English king Henry VI., the conquests of his father on the soil of France were finally lost. Bordeaux and Bayonne were the last to submit, in 1452, to the arms of the French king, Charles VII.*

7. BRITTANY (or BRETAGNE), a peninsular region, forms the north-west corner of France. It stretches out into the Atlantic far beyond the general line of the French coast, and divides the waters of the Channel and the Bay of Biscay.

The south-western peninsula of England repeats on a smaller scale all the natural features that belong to the Breton peninsula. There are in the larger region on the south side of the Channel the same description of high, rugged, and sea-worn coast, the same wide-spreading plains

* The people of the Bordelais long remained attached to the memory of their English rulers, and, under the oppressive fiscal exactions of their new sovereign, continued to regret the loss of the commercial and other advantages which they had enjoyed during the period of English dominion over their sunny land. See Hallam: Middle Ages.

of naked rock, with gigantic granite *tors* rising above them, that belong to the counties of Devon and Cornwall. Even the names of particular localities are repeated. There is a district of Cornouaille (Cornwall) in Brittany, and the famous Mont St. Michel, within the bay formed by the angle which the shores of Normandy and Brittany make at their junction, is a counterpart to the well-known St. Michael's Mount, on the coast of Cornwall. Bretagne, again, the name of the one region, repeats that of Britannia, of which the other forms a part. A Celtic population occupies both. The native language of the Breton peasant, even in the present day, is almost identical with the Welsh tongue, to which the now extinct language of Cornwall was closely analogous. The same monuments of Druidical superstition — cairns, cromlechs, and huge rocking-stones — occur in the one region as in the other. The popular superstitions and traditions are the same in Brittany as in Celtic Britain; and the mythical greatness of Arthur, the hero-king, is a cherished object of regard to the Breton as well as to the Welsh and the Cornish peasant.

The coast of Brittany extends on the side of the Bay of Biscay to the southward of the Loire, the outlet of which river falls within its limits. The high grounds which occupy the greater part of the interior reach in many places to the sea-coast, which exhibits much diversity of outline, forming numerous safe and sheltered harbours. The greatest elevations of the land, however, hardly exceed twelve hundred feet. Next to the lower portion of the Loire, the Vilaine (with its affluent, the Ile), and the Aulne, are the chief rivers of Brittany. The Aulne has its outlet in the extensive bay which forms the harbour of Brest.

The city of *Rennes*, with 40,000 inhabitants, situated at the point where the Ile and Vilaine unite their waters, ranks as the capital of Brittany. Rennes, however, is greatly inferior in size and population to *Nantes*, which stands on the north bank of the Loire, 30 miles above the sea. Nantes is the chief city of Lower Brittany, and was in former times regarded as one of the most important possessions

of the ducal rulers of the province. Its population exceeds 108,000.

Among the numerous seaport towns of Brittany, the most celebrated are *St. Malo*, *St. Brieux*, *Brest*, *Quimper*, *L'Orient*, and *Vannes*. The two first-named are on the shores of the Channel: the harbour of Brest fronts the Atlantic: the others belong to the coast of the Bay of Biscay. *Hennebonne*, the defence of which during its siege by a French army in 1342 forms a stirring picture in the chronicles of Froissart, is a small town situated on the river Blavet, a few miles NE. of L'Orient.

The nominal homage which, in the 9th century, the independent dukes of Brittany owed to the kings of France, was early transferred to the dukes of Normandy.* A direct connection between this province and the crown of England resulted from the policy of the first Plantagenet king, Henry II., who united his son Geoffrey in marriage with the daughter and heiress of the reigning Duke of Brittany. Favoured by the internal disorganisation of the duchy, Henry for a time extended his power over the greater part of its limits, keeping his court, in the winter of 1166, in the castled rock of Mont St. Michel. Brittany, however, became freed from English control under the reign of Henry's unworthy son John.

FRENCH POSSESSIONS OF EDWARD III.—When Edward III. ascended the throne of England (1327) the English possessions on the continent were limited to Aquitaine. France, though wanting the unity of resources which was effected by her rulers a century and a half later, was already a great and powerful kingdom. In England the distinction between Norman and Saxon had disappeared, and the vigorous administration of the first Edward had tended greatly to enhance the resources and raise the spirit of the nation. Edward III. laid claim, in right of his mother, to the throne of France—an unjust and even absurd pretence. But his pretensions, though ultimately attended by the failure which they merited, and for a time accompanied by ill success in arms,

* Hallam: Middle Ages.

are connected with some events that are truly glorious to the English nation. The names of Crecy and Poitiers belong to the most stirring records of this period.

In 1346 Edward invaded France with a large army, landing on the French coast at the port of La Hogue, near Barfleur, in Normandy. He ravaged the valley of the Seine nearly up to the gates of Paris, but in danger of being encompassed by a superior force, felt it necessary to retreat towards Flanders, with the Count of which he was in alliance. Edward's line of march was through the plains of Picardy, across which the river Somme flows, on its course to the Channel. This stream lay in the English king's way, and it was necessary to cross it. The French army — immensely outnumbering his own — hung on his rear. After vainly endeavouring to cross at several places in succession, Edward was informed by a peasant that the Somme was fordable, when the tide was out, at a spot called Blanche Taque, about seven miles below Abbeville, and nearly midway between that town and the mouth of the stream. The English crossed the river at this point, defeating a detachment of the French army posted upon the north bank to dispute the passage, and then encamped in the fields between Crotoy and Crecy. The former of those places lies on the north bank of the Somme, a short way above its mouth. Crecy is a village lying about ten miles distant from that river, in the direction of N. by E. from Abbeville. Edward posted his forces on an eminence behind this village, and determined to await there the attack of the French.*

The battle of *Poitiers* was fought on September 19, 1356, ten years later in date than the battle of Crecy. The immediate occasion of this famous conflict — more important in its consequences than the prior engagement — was the

* The battle of Crecy was fought on Saturday, August 26, 1346. Five days after the battle of Crecy, Edward laid siege to Calais. The siege lasted eleven months. Crecy falls within the department of Somme, in modern French geography: Calais in that of Pas de Calais. Both places were within the ancient Picardy.

invasion of the French king's dominions, from the side of Guienne, by an army under the Black Prince. The numerical disparity between the opposite forces was nearly as great as at Crecy, the French outnumbering the English forces in the ratio of six to one.* The Black Prince's victory was complete. The French king (John the son of Philip Valois) was taken prisoner, and remained a captive in the hands of the English until the treaty of Bretigny, in 1360.

BRETIGNY, which gave its name to the famous treaty of 1360, is a village of Orleanais (within the modern department of Eure et Loire), situated five miles SE. of the town of Chartres. By the treaty concluded at this place, Edward renounced all title to the throne of France, and received in recompence for the concession the full sovereignty of the provinces of Guienne, Gascony, Poitou, Saintonge, the Limousin, and Angoumois, together with Calais, and the county of Ponthieu. The two last mentioned localities — Calais and Ponthieu — comprehend nearly all that the English king had really gained by fourteen years of war, for the other provinces had all (excepting Poitou) been included within Aquitaine, which was already English at the commencement of Edward's career of invasion.†

PONTIEU, a maritime district, forms part of Picardy. It extends across the lower Somme, reaching northward from that stream to the little river Ternoise. The village of Crecy falls within its limits, as also does the city of Abbeville.‡

FRENCH CONQUESTS OF HENRY V. — Two generations later, an English king again invaded France. Henry V., within little more than twelve months after his accession to

* A large proportion of the Black Prince's army was composed of Gascons.

† Even before Edward's death, nearly all his conquests, excepting Calais, had been already lost, and of the immense principality which he had conferred upon his son scarcely anything but the cities of Bordeaux and Bayonne remained.

‡ Ponthieu had formed the marriage portion of Edward's mother, Isabella, the daughter of Philip the Fair, married to Edward II.

the throne, renewed the ill-grounded pretence which had been made by Edward III. to the crown of that country, then torn by contending factions, and weakened by civil strife.

In August 1415, Henry set sail from Southampton, and landing at the mouth of the Seine, laid siege to Harfleur, then a strong fortress: Harfleur surrendered after a siege of thirty-six days, during which the army of the English king had suffered greatly from sickness. Notwithstanding the weakened state of his forces, Henry determined on marching direct to Calais, though the doing so involved the passage through the hostile provinces of Normandy, Picardy, and Artois, in full possession of the enemy's troops. The English army, on leaving Harfleur, could not have numbered above 9000 men. No important obstacle occurred on the march until the limits of Normandy were passed, but when within Picardy the difficulty which had presented itself to the army of Edward III. recurred to that of Henry V. It was necessary to pass the Somme. The ford near the mouth of that river, by which Edward had crossed, was found unavailable: it was defended by strong palisades, with fortified works upon either bank. The English were therefore compelled to march inland, up the valley of the Somme, in search of a passage. This was not found until a ford was reached near the village of Betencourt, more than 40 miles above Amiens, and about 15 miles below the town of St. Quentin. From the north side of the Somme, Henry pursued his march direct towards Calais, the French army falling back as he advanced, until it made a stand near the neighbouring villages of Ruisseauville and Azincourt, ten miles to the north-westward of the town of St. Pol, and within the plains of Artois. Henry's army had but just forded the deep and rapid stream of the Ternoise (a tributary of the Canche, which enters the Channel below Montreuil), when it came in sight of the French columns, posted immediately behind the castle of Azincourt. There, upon the following day (Oct. 25, 1415), the battle which bears that name was fought.

The loss of the French at Azincourt* was frightfully severe. It needed, however, the campaigns of three successive after years before the realm of France lay at the disposal of the victorious king of England. The army with which Henry landed on the coast of Normandy in 1417, was larger than any that had before left England; but the English had to fight their way, step by step, through Normandy, the population of which was thoroughly hostile to the invaders, so completely had the lapse of time altered the mutual relations of Normandy and England to one another.† Caen, Bayeux, Lisieux, Falaise, Louviers, and Rouen, were successively reduced — the last only when the garrison, after a blockade of nearly half a year's duration, were at the extremity of famine. After the fall of Rouen the English king advanced to Mantes on the Seine, 60 miles below Paris, and thence to Meulan, some miles nearer the French capital. The negotiations commenced at Meulan were broken off for a time, but France was now prostrate before the English conqueror. In the spring of 1420, Henry marched with the finest portion of his army to *Troyes*, the old capital of Champagne, and there met the French king. By the treaty concluded at Troyes, Henry was declared heir to the French monarchy on the death of the reigning king of France, Charles VI., whose daughter Catherine became the bride of the English king. During the fifteen years which followed (1421–1436), Paris was in the possession of the English, and the birth of an infant prince, afterwards Henry VI., was celebrated with equal joy in the capitals of France and England.

* At the battle of Azincourt the French army outnumbered the English in the ratio of above six to one — a disproportion nearly as great as that exhibited by the two armies which had fought at Crecy, sixty-nine years before. A space of less than twenty miles separates the ground upon which the two memorable engagements were fought. Azincourt is within the department of Pas de Calais.

† In vain did Henry remind the Norman people of his descent from their great chieftain, Rollo, and strive to awaken sympathies founded on a relationship between themselves and their ancestors, the Norman conquerors of England. Three centuries and a half had elapsed since the date of the conquest of England by a Norman duke. The descendants of the Norman followers of William had long ere this become Englishmen, and the Normans of the continent were in nearly an equal degree incorporated with the French nation.

The treaty of Troyes provided for the union of the crowns of France and England on one head—a consummation which, happily for both nations, was never accomplished. Henry V. died in 1422 at Vincennes, in the neighbourhood of Paris, the inheritance of his possessions and claims devolving on his infant son, Henry VI., who was proclaimed King of France as well as England, under the care of his uncle, the regent Bedford. Charles VI., the imbecile French king, only survived Henry by two months, and the dauphin, who succeeded him, was crowned at Poitiers as Charles VII.

The victories of Henry V. had given the English possession of a larger area of France than had belonged to them at any former period—larger even than under Henry II. At the commencement of the reign of Henry VI. the very existence of France, as an independent nation, was almost destroyed: what little remained of French power was driven to the south of the Loire, and the city of Orleans, on the banks of that river, became the chief stronghold of the French monarchy. France was saved from utter ruin by the heroism of the Maid of Orleans, Joan of Arc.

The English laid siege to Orleans in 1428. This siege was the turning point in the fortunes of France. The siege was raised after seven months continuance (May 1429) and the French king was crowned at Rheims two months later. From this time (and with some ebb and flow of success and failure) the English cause in France continued to decline, and the French cause to advance. The unexpected capture of the French heroine, the maid Joan, at Compiègne (a small town on the Oise, 42 miles NE. of Paris) in the summer of 1430, and her cruel execution at Rouen in the following year, did not retard the general course of events. The English garrison in Paris capitulated to the Burgundian chief in 1436. One province after another was subsequently lost. In Normandy the English maintained a lengthened struggle for the permanence of their dominion. It was not until 1450 that, with the capture of Cherbourg, where the English

sustained their last siege, that province was finally lost. In the south of France, the contest was prolonged to two years later date. Fronsac,* Bordeaux, and Bayonne, remained in the keeping of the English garrisons, when all Guienne had declared in favour of the French king; but, helpless of succour, they at length capitulated, and Aquitaine, the brilliant dowry of Henry II.'s queen, was for ever disunited from the crown of England.

All that now remained to England, upon the soil of France, consisted of Calais and the adjoining strip of marshy land commanded by its batteries. Calais was dear to the English nation, not less from the memories with which it was associated, than from the political advantages believed to attach to its possession. It remained in the hands of the English until 1558, when, during the reign of Queen Mary, it yielded to a sudden attack on the part of the Duke of Guise, of only eight days' duration. It had then been upwards of two centuries in English possession.

Calais has in the present day a population of 13,000. It is still a fortified town, walled, and protected by a strong citadel on its western side, besides having several detached forts which command the harbour and the approaches of the town. The importance long enjoyed almost exclusively by Calais as a place of transit between England and the continent no longer attaches to it: even in so far as France alone is concerned, it is in great measure superseded by Boulogne in this respect. Calais, however, is connected by railway with Lille, and, through that city, with Paris, Brussels, and the other principal cities of continental Europe. The little town of *Guines*, 6 miles S. of Calais, and included with it in the tract so long subject to English dominion (the former county of Guines), lies in a marshy plain, through which runs a canal which connects it with Calais. Guines has about 4,000 inhabitants.

* At the junction of the Dordogne and l'Isle rivers, and on the N. bank of the former, opposite Libourne, 16 miles NE. of Bordeaux.

CHAPTER VIII.

WALES.

CONQUEST OF WALES. — It was not until near the closing years of the thirteenth century that England and Wales became united into a single kingdom — a result due to the determined and persevering efforts of Edward I. in the subjugation of the Welsh people. We have already sketched the physical aspect of Wales.* The rugged surface of that mountain land enabled its inhabitants to preserve a virtual independence throughout the period of Saxon rule, and through more than two centuries of Norman dominion over the rest of South Britain.

Roman discipline had overcome the rude valour of the Celtic population of the Welsh mountains, and the Romans held their land in military occupation, as they did all the rest of the island. Several of the military stations of the Romans are within Wales,† and the remains of the Roman roads by which the country was traversed are still visible. But the Saxon kings of Mercia, whose dominions bordered on the lands occupied by the Welsh, did not penetrate the mountain region, unless for a temporary purpose, in retaliation for the forays to which they were at all times liable on the part of its inhabitants. Offa, the powerful King of Mercia, who reigned between the years 755 and 794, compelled the Welsh kings of Powys to retreat beyond the Wye, and planted Saxon colonies in the tract of country lying west of the Severn — between that river and the borders of the mountain region. To secure the country

* See chap ii. p. 24.

† *Ante*, p. 90, 91.

thus colonised, and protect his subjects from the inroads of the mountaineers, he constructed a ditch and rampart — known as Offa's Dyke — along the whole length of the Welsh border, from the mouth of the Dee to the outlet of the Severn. Portions of this work still remain, and nearly the whole line may be traced without difficulty.* The Welsh, however, frequently broke through this rampart.

During the chief part of the Saxon period, the great divisions of Wales were Gwynedd, Powys, Dyfed, and Deheubarth, each of which formed, at least at times, a distinct kingdom, and the last-named of which included several smaller states. GWYNEDD embraced the northern and north-western part of Wales, and had Aberffraw (now a mere village), on the SW. coast of Anglesey, for its capital. Powys was the more eastwardly portion of what is now understood as North Wales. Before the date of Offa's conquests, the kings of Powys had extended their dominions eastward to the Severn, and held their court in the city of Pengwern, or Shrewsbury. The kingdom of DYFED, or Dimetia (known also as West Wales), included the tract of country between the Towy and the Teify rivers, and had Dynevor, in the valley of the former, for its capital. DEHEUBARTH, which comprehended the rest of South Wales, included several small states, amongst which were GWENT (the present Monmouth), the capital of which was Caerleon, and MORGANWG, or Glamorgan.†

Offa's Dyke constituted a boundary that was little more than nominal. The real limit between the Welsh

* Offa's dyke extended "from one sea to the other, from the south near Bristol to the north above Flint, between the monastery of Basingwerk and Coleshill" (Welsh Chronicle). The ruins of Basingwerth Abbey are situated a short distance from the town of Holywell, to the north-eastward, near the shore of the Dee estuary. Coleshill appears on the modern maps in the form of Counsillt (near the town of Flint), and gives its name to one of the hundreds into which the county of Flint is divided. The ancient forest of Coleshill stretched from the neighbourhood of the coast a considerable distance inland, towards the hilly country which borders the valley of the Clwyd upon the east.

† Lappenberg: *Hist. of England under the Anglo-Saxon Kings*, translated by B. Thorpe (London, 1845).

and the Saxon territory fluctuated with the ability of the Saxons to resist Welsh inroads, and to enforce the submission of the mountaineers. Hardly was Offa's Dyke finished, before the Welsh broke through the rampart. A terrible retaliation ensued: the Mercian king engaged the mountaineers in the marshes between the town of Rhyddlan and the sea (in the north-west corner of Flintshire), and the Welsh were defeated with immense slaughter, their king being slain. This was shortly before the death of Offa, in 795. Under several of the later Saxon kings, an enforced acknowledgment of dependence was extorted from the Welsh, either by policy or arms, or both combined. This was the case, for a time, under Egbert.

The people of North Wales co-operated with the forces of Alfred, in resistance to the Danish marauder, Hasting. Subsequently, we read of an expedition conducted in person by Ethelfleda, the heroic daughter of Alfred, and queen of Mercia, against Breconmere, or Brecknock, and of submission extorted from the Welsh king on the part of her brother Edward. Again, Athelstane, the grandson of Alfred, extorted tribute from the Welsh princes, as also did Edgar, who reigned A.D. 958-975. Edgar reckoned three Welsh kings amongst the eight monarchs who rowed his barge upon the river Dee, while his own hands guided the helm.*

During the reign of Edward the Confessor, severe chastisement was inflicted on the people of North Wales by Harold, the son of Earl Godwin (afterwards king of England). Harold surprised the Welsh king, Gryffyth, in his castle of Rhyddlan, in Flintshire, and pursued the defeated monarch to his retreat among the rugged heights of Penmaenmawr. Pressed by famine, the followers of Gryffyth

* The same monarch, we are told, commuted the tribute which the Welsh engaged to pay him into 300 wolves' heads annually, "and (says William of Malmesbury) this tribute ceased in the fourth year, for want of wolves to kill." These ferocious animals, however, were found in South Britain down to the times of Edward I., and were not finally extirpated from Scotland until four centuries later, the last of them having been killed by Cameron of Lochiel, in 1680.

broke out in rebellion against their sovereign, whose head they sent to the Saxon earl in token of submission (A.D. 1063). By a law then passed it was ordained that every Welshman found in arms to the east of Offa's Dyke should lose his right hand.

The early Norman kings, on several occasions, took severe measures to check the incursions of the Welsh mountaineers into the adjacent plains, and confine them within their own proper frontier. The Conqueror led an army into Wales in person, as also did his immediate successor, William Rufus. The Red king, however, lost many of his troops among the defiles of Snowdon, and accomplished little beyond the greater security afforded by the chain of fortresses which he caused to be erected along the frontier. The open and more level country of South Wales, along the shore of the Bristol Channel, afforded greater facility for conquest than the middle and northerly parts of the mountain-region. Henry I. settled as colonists in this tract a number of Flemings who were exiled from their native land in consequence of the troubles which prevailed there, and who brought with them their habits of industry and their skill in the weaving of woollen cloths. These Flemings, settled in Pembrokeshire, maintained their position in spite of the hostility of their Welsh neighbours. The entire line of coast lying along the north side of the Bristol Channel, indeed, appears to have been in possession of the early Norman kings of England. It was in Cardiff Castle that the unfortunate Duke Robert, brother of Henry I., lingered so many years in sightless captivity. Milford Haven was the port whence, in the time of Henry II., Strongbow embarked on his expedition to Ireland. Henry II. on two occasions conducted expeditions in person against the undaunted mountaineers, and with but small success in either instance. On the former of these occasions (in 1157) the English king, crossing Flintshire, and advancing into the mountain-region on its south-western border, sustained severe loss within the tract then known as Coleshill Forest.

In the later instance (1165) Henry, penetrating the lands of Powys, fought a general action with the Welsh on the banks of the river Ceiriog (an affluent of the Dee), advanced to the foot of the high range of the Berwyn mountains, where he encamped in the neighbourhood of the town of Corwen, on the Dee. Here his army suffered severe loss from the attacks of the mountaineers, aided by sudden swelling of the streams, from torrents of rain, and he was obliged to retreat in some disorder. Five and forty years later, John made a display of military prowess by leading an army to the foot of Snowdon, and succeeded in obtaining some tribute from the Welsh, as well as a further acknowledgment of dependence on the English crown.

The line of the Welsh marches, or border, was always insecure, and the retainers of the Norman barons were scarcely safe beyond the shelter of their castle walls. The mountain-population cherished a deeply-rooted hostility towards the dwellers in the adjacent plain, from whom they differed in race, language, and pursuits. The Norman frontier, however, gradually (though slowly) advanced, the Welsh were with each generation more closely hemmed in. The final subjection of the mountain-land was accomplished by Edward I., between the years 1277 and 1284. A large portion of South Wales was at that time already in the power of the English nobles, whose frontier castles formed a chain between the Severn, the Munnow, and the Wye, and who maintained unbroken communication, along the coast-line, with Milford Haven, then become the principal port of communication with the subjugated kingdom of Ireland. But in North Wales, the mountaineers, under their hereditary prince, Llewellyn, were still virtually independent. The mountain-wilderness of the north-west — by “dreary Arvon’s shore,” — which culminates in the rocks of Snowdon, formed the last stronghold of Welsh nationality.

The complete subjugation of the Welsh people by force of arms was not an easy task. In 1277 the English king,

marching from Chester, and keeping along the coast, took the castles of Flint and Rhyddlan, which he strengthened and garrisoned. A fleet (furnished by the Cinque Ports) co-operated with his army, and cut off the supply of provisions from the Welsh, who with Edward's further advance became cooped up within the mountains, every outlet from which was guarded. With the setting in of winter, famine compelled the Welsh prince to surrender; and, at Rhyddlan castle, Edward dictated a treaty by the terms of which the country as far as the river Conway was ceded to the English, with reversion of the Isle of Anglesey on the death of the Welsh prince without male heirs, while an enormous pecuniary fine was imposed. This treaty was evidently regarded by the Welsh as nothing more than a truce extorted by necessity. The cessation of hostilities between the mountain-population and their foes was only of brief duration. In the spring of 1282 the Welsh, sallying from their mountains, took the strong castle of Hawarden, and laid siege to the castles of Flint and Rhyddlan. The English king resolved on speedy retaliation, and was probably glad of the pretext thus afforded for completing his conquest. With a numerous army—again aided by a fleet—Edward penetrated the fastnesses of Snowdon. The victory which he finally achieved was by no means easy: on more than one occasion the fierce onslaught of the Welsh compelled the retreat of the English army—even its temporary discomfiture. Edward employed the services, as auxiliary troops, of Basque mountaineers from the Pyrenees, who were accustomed to the difficulties of mountain warfare, and the unhappy Welsh were hunted down even in their mountain fastnesses. At Builth, in the valley of the Wye, while on his march southward, to meet a force which the English king had ordered to advance from the direction of Caermarthen and Pembroke, Llewellyn was surprised and slain, perhaps with some admixture of treacherous contrivance. His brother David protracted through a further six months the struggle for Welsh independence, but was

at length betrayed into the hands of the English king. A parliament assembled by Edward at Shrewsbury (1283) pronounced the doom of the last of the native Welsh princes, and of the Welsh as an independent nation.

After the death of Llewellyn, Edward spent upwards of a year in Wales. During this time, he held a council or parliament in the castle of Rhyddlan, in Flintshire (1283), where various provisions for the regulation of his new conquests, the division of Wales into counties and hundreds after the manner of England, and other matters affecting the Welsh people, were made. The birth of an infant son, in the castle of Caernarvon, gave the well-known occasion for his gratification of the Welsh nation by the title of Prince of Wales, conferred upon one who was really a native of the principality. The eldest son of the English king, Alphonso, was then living, and the Welsh looked forward to the rule of the newly-created prince over a separate territory. But Prince Alphonso died: the Prince of Wales became heir to the crown of England, and the title, borne ever since by the eldest son of an English sovereign, is all that remains in recognition of the existence of the Welsh as a nation.

The division of Wales, however, made by Edward I. for the purpose of assimilating it to his English dominions, was only partial. Eight only of the present Welsh counties were recognised on this occasion. It was not until the reign of Henry VIII. that all previously remaining distinctions were abolished, and the whole of Wales declared to be finally and completely incorporated with the realm of England. By the statute of 27 Henry VIII. (1535), all the marches or border-lands between the two countries were either formed into new shires, or added to shires that had already been constituted by Edward I. The new counties thus created were Brecon, Radnor, Montgomery, Denbigh, and Monmouth — the last named being now for the first time designated an English county. The English counties of Salop, Hereford, and Gloucester,

were augmented by the annexation of certain lands lying on the Welsh border. Several changes were also made in the extent and boundaries of the counties previously formed by Edward I. Thus, one of the *cantrefs* or divisions of Merioneth was added by the statute of Henry VIII. to the newly-formed county of Montgomery. The western portion of Glamorganshire, including the peninsula of Gower, which had previously belonged to Caermarthen, was now first included within the limits of the former county; while the newly-erected county of Monmouth was made to include the tract lying between the river Usk and Rumney, which had hitherto formed part of the lands of Morganwg, or Glamorgan.

Prior to the English conquest, the division of the various districts of Wales was into *cantrefs*, which were further divided into *cwmuds* (or comots). These divisions were by the statute of Henry VIII. rendered equivalent to the correspondent hundreds of the English counties, and are now commonly spoken of as hundreds. The only one of the Welsh counties which retains its native designation unaltered is Merioneth, or Merionydd. Some of the others have derived their names from the Norman barons to whom various portions of the border-lands were granted, or the custody of the Welsh marches assigned, by the early Norman kings of England. This is the case with Montgomery and Pembroke. Others exhibit an altered form of the appellation derived from native princes or chieftains of Wales, as Glamorgan, from Morganwg, or Gwlag Morgan (the country of Morgan); and Cardigan, from Caredigion, the territory of Caredig, the first king of that district. The adjoining district of Caermarthen, with nearly all South Wales, was at one time included within the kingdom of Caredigan. Caernarvon (Caer-yn-Arvon, i.e. the fortress in Arvon) preserves the native designation of Arvon, applied to the north-western division of the principality.

CHAPTER IX.

EARLY BATTLE-FIELDS OF ENGLAND—THE WARS OF THE
ROSES.

THE following localities, referred to within the earlier chapters of English history following the Norman conquest, are rendered noteworthy by the sanguinary contests of which they were the scene:—

	A.D.		A.D.
North Allerton (Battle of the Standard)	. 1138	Neville's Cross .	. 1346
Lewes . . . .	. 1264	Otterbourne (Chevy Chase) . . .	. 1388
Evesham . . . .	. 1265	Homeldon . . .	. 1402
Halidon Hill . . .	. 1333	Shrewsbury . . .	. 1403

NORTH ALLERTON, YORKSHIRE.—The town of North Allerton lies in the midst of the great plain of York, a short distance east of the river Wiske, an affluent of the Swale, and within the North Riding. It is 31 miles distant from the city of York, in the direction of N.N.W., on the great line of road northward towards Durham and the Scotch border, and also on the line of the Great North of England Railway. Cowton Moor, where the engagement known as the Battle of the Standard was fought, is between five and six miles distant from North Allerton, to the north-westward.

The Battle of the Standard occurred during the troubled reign of Stephen, the records of which unhappy period are chiefly occupied with the contest for supremacy between that prince and the empress Matilda. The numerous petty sieges and skirmishes which occurred in its course were preceded by the more noteworthy event here referred to, in which the English barons of the north, with their retainers, on the one hand, and the army of the Scots, under their

king, David, on the other, were the contending parties in the field. The Scots, their army consisting of forces drawn from every quarter of North Britain—the Lowlands, the Highland region, and the islands of the western coast—had advanced into England in support of the cause of Matilda. King Stephen, engaged in the south, was unable to reach the scene of contest, but the northern barons, instigated by the aged (but still energetic) archbishop of York, Thurstan, gathered their forces in opposition to the invaders. The armies met at Cowton Moor.*

LEWES, SUSSEX.—The town of Lewes, in the eastern division of Sussex, lies on the right bank of the little river Ouse, which enters the Channel about seven miles below. The ground upon which it is built forms part of the lower slopes of the chalk range of the South Downs, which are here intersected by the valley of the Ouse. Higher eminences of the same range overlook the town to the east and west, nearly enclosing it on all sides, excepting towards the south. The battle to which Lewes gives its name appears to have been fought to the westward, or south-westward, of the town, near the ruins of its ancient Priory. Leicester, marching from London, encamped on the Downs two miles distant, and descended thence to the attack of the rebel army posted in the hollow below.

The battle of Lewes belongs to the lengthened reign of Henry III. It was fought on May 14, 1264, between the forces of the King on one side, and those of the confederate barons, under the powerful Earl of Leicester (Simon de Montfort) on the other. The ex-

* The site of the engagement is still called Standard Hill, and the holes into which the bodies of the dead were thrown are pointed out as the Scots Pits. The battle derived its distinguishing appellation from the fact of a remarkable standard, which formed the rallying point of the English army. This consisted of a cross which occupied the summit of a tall mast, and below which were the banners of three principal English saints, the whole drawn upon a car with four wheels. This standard occupied the centre of the English position, and around it, beside the Norman barons and their followers, many of the English yeomanry and peasants, from the plains, wolds, and woodlands of Yorkshire, Nottingham, and Lincolnshire, were gathered—armed with the national weapon of England in former time, the bow. An animated description of the contest, derived chiefly from Matthew Paris, is given in the *Pictorial History of England*, book III. chap. i.—Also Hume, chap. vii.

perienced skill and valour of Leicester ensured a victory to his side, and both the King and his brother, together with Prince Edward (afterwards Edward I.) remained prisoners in his hand at the conclusion of the engagement.*

EVESHAM, WORCESTERSHIRE. — The neighbourhood of Evesham witnessed, in the following year, a reversal of the success which had attended the Earl of Leicester at Lewes.

Evesham, a town of ancient date, and of some importance prior to the Norman conquest, is situated on the right bank of the upper Avon, within the fertile and beautiful valley to which its name is given. It lies within the south-east portion of the county, 13 miles E.S.E. of the city of Worcester, and near the Gloucestershire border. The town is nearly encircled by the winding course of the Avon, which there makes a deep bend to the southward. The battle was fought on the high plain to the north of the town, and above a mile distant from it: the ground is there considerably elevated above the river.

The circumstances connected with the battle of Evesham can only be understood by reference to the map of that portion of England. Prince Edward, retained as prisoner after the battle of Lewes, had escaped from the close surveillance maintained over his person at Hereford, whither, along with his father, he had been carried by Leicester. The earl himself, with the main body of his forces, was stationed at Hereford. His son, Simon de Montfort, with the rest of the insurgent forces, was in Sussex, whence he set out with the intention of joining his followers to those of his father, marching, for the purpose, through Oxford, and thence towards Kenilworth, in Warwickshire. It was the aim of the prince to prevent the junction of these two bodies of his foes, and with that view he sought to confine Leicester's forces to the right (i.e. the west) bank of the Severn. He succeeded, by a night march, in striking a blow at the army of Simon de Montfort, whom he surprised, with his attendant knights, while bathing at sunrise in the waters of the Avon, not far from Kenilworth (in Warwickshire). The earl, meanwhile, in spite of the prince's efforts, had crossed the Severn, and, deceived by a

* See Pictorial History of England, book iv. chap. i; also Hume, chap. xii.

feigned march of the prince in an opposite direction, had moved forward in the direction of Kenilworth. The prince, however, his purpose accomplished, turned again on his former track, and, getting in advance of Leicester, reached Evesham before his foe, in time to secure an advantageous position for his army, and to make himself master of the surrounding roads. When the earl approached Evesham, he found that he was hemmed in upon every side. He was compelled to fight, and the battle that ensued was decisive.*

Two years of desultory resistance to the royal authority succeeded the battle of Evesham. The most noteworthy incident of that term of contest was the defeat by the prince of Adam Gourdon, one of the malecontent barons, in a skirmish fought near Alton, in Hampshire. When, shortly after its close, the kingdom was restored to general tranquillity, Prince Edward assumed the cross, and departed for the Holy Land—the last English prince who engaged in the enterprise of recovering Jerusalem out of the hands of the Saracens.

HALIDON HILL.—The battle of Halidon Hill, though its site falls within what is now the English border, was fought upon Scotch rather than English ground. Halidon (or Halidown) is a tract of rising ground which nearly adjoins the town of Berwick-upon-Tweed—about a mile to the north-westward. The highest point of the hill reaches about 540 feet above the sea. The low tract of meadow between the high ground and the sea is now known as Magdalen Fields.

At the date of the battle of Halidon, 1333, the town of Berwick, the possession of which had already fluctuated between the Scotch and English nations, was in the hands of the former. It was invested by a powerful English army in May of that year (six years after the date of Edward III.'s accession), with the purpose of giving support to the claims of Edward Baliol to the throne of Scotland. The governor of the beleaguered town had promised to surrender it unless relieved by the ensuing 20th of July. Upon the 19th of that month, the army of the Scots, under Lord Archibald Douglas—then acting as regent on behalf of the young king, David Bruce (son and successor of the great Robert Bruce)—came in sight of

* A tower erected on the field of battle, immediately beside the high road leading from Evesham northward, along the right bank of the Avon, is said to mark the spot where the Earl of Leicester fell. The name of Battle-well, in the same vicinity, somewhat nearer the town, also commemorates the event.

Berwick, and found the main body of the English army drawn up on the rising ground of Halidon. This elevation was then partly surrounded by bogs and marshes, but the Scots, in spite of the natural advantages of position which favoured their foes, resolved to attack them, and sustained as the result a severe defeat. The town of Berwick surrendered to the English the day after the battle.*

NEVILLE'S CROSS, DURHAM.—Neville's Cross is in the immediate neighbourhood of the city of Durham, to the south-westward, less than a mile distant from the present suburbs in that direction. Durham itself, with its ancient cathedral and castle, crowning a commanding eminence, and nearly insulated by the Wear,† lies within the fertile plain through which that river flows in its middle and lower course, as it passes on to the German Ocean.

The battle of Neville's Cross (or Durham, as it is called by the Scottish historians) occurred while Edward III. was engaged in the siege of Calais. The better part of the chivalry of England were in attendance on the king. David Bruce, the Scottish monarch, marching from Perth, advanced into Cumberland, and thence into the adjoining county of Durham, encamping about three miles from the city of that name. The English assembled an army at Auckland Park, in the vicinity. The Scots appear to have been ignorant of the English movements, but their king, though taken by surprise, formed his lines, and a decisive battle was fought beside Neville's Cross, on October 17, 1346. Victory was in favour of the English, the Scotch king remaining a prisoner after the action.‡

OTTERBURNE.—The locality of Otterburne is within Northumberland, on the banks of the river Reed (the chief affluent of the North Tyne), and upon one of the main lines of road passing through the border country. The

* The regent Douglas was killed in the fight, together with great numbers of the Scottish lords and chieftains.—See account in Pictorial History of England, book iv. chap. 1; Hume, chap. 15.

† Hence its name; *holm*, a river-island, added to the Celtic *dun*, or hill.

‡ See Pictorial History of England, book iv.; also Hume, chap. xv. Froissart, from whom the popular account of the battle is chiefly derived, speaks of Queen Philippa as riding up and down the English lines, and animating the troops. Other cotemporary writers, however, make no mention of the presence of the English queen, which must be regarded as at least doubtful.

little stream (or *burn*) to which the name of Otterburne properly applies joins the Reed on its left bank, about nine miles above the southern extremity of Reedsdale, and seven miles N. by E. of the town of Bellingham.

The Scots, under the Earl of Douglas, upon their return from an invasion of the English border, in the course of which they had penetrated to the gates of Durham, were followed by a body of English under Hotspur. They obtained a hardly-contested victory — purchased with the death of their leader, Douglas — both Hotspur and his brother being taken prisoners.*

HOMELDON, NORTHUMBERLAND. — The battle of Homeldon was fought between a Scotch army, under Douglas, and an English force under the Earl of Northumberland, and his son, Harry Percy, or Hotspur.

Homeldon (or Humbleton) is a rising ground lying about a mile distant, in the direction of north-west, from the little town of Wooler, in the northern part of Northumberland — not far from the foot of the Cheviot Hills. Wooler itself lies about fifteen miles due S. from Berwick-upon-Tweed, on the banks of a little stream or burn, an affluent of the river Till. To the west and southward of the town, in the direction of the Cheviots and the Scotch border, this is chiefly a pastoral tract.†

* An animated description of the engagement — drawn principally from Froissart — is given by Tytler, *History of Scotland*, vol. ii. chap. 3. The battle was fought by moonlight, on August 5, 1388.

The fight at Otterburne is commonly identified with the battle known in border minstrelsy by the name of Chevy Chase. This latter, however, is by some authorities referred to another locality within the same county — Piperden, or Piperdean — situated within a more northwardly part of the Cheviot region. Piperden is near the left bank of the Beaumont or Glen river, an affluent of the Till — a few miles N.W. of Wooler, and but a short distance from the field of Flodden. In 1434, an English force, under Sir Robert Ogle, was met at Piperden by a body of Scots under the Earl of Angus, and totally routed (see Tytler: *Hist. of Scotland*, vol. iii.). Numerous localities of border conflict are found within this tract of country. Reedsquair, the scene of the last skirmish of any note between the rival nations (1575), lies at the head of Reedsdale, immediately on the modern border-line between England and Scotland.

† The field of Flodden is only six miles distant from the town of Wooler, to the north-west. Percy's Cross, which marks the site of the battle of Hedgely Moor (1464), is at about an equal distance in the opposite direction. A stone pillar, erected at the base of the hill of Homeldon, commemorates the victory of Earl Percy.

Two years before the date of the battle of Homeldon, the English king, Henry IV., had invaded Scotland, but, after penetrating with his army as far as Edinburgh, had been compelled by scarcity of provisions to retreat within the English border. In the spring of 1402, a Scotch force was defeated at Nesbit Moor (to the north of Wooler) by the Percies, aided by the Earl of March, then on hostile terms with the Scotch king. Earl Douglas, determined to avenge this defeat, had collected an army for the purpose of making an inroad within the English border. "Ten thousand warriors, the best of Scotland, followed the banner of the Douglas, which flew like a meteor from the Lothians to the Tweed, from the Tweed to the Tyne," and devastation followed in the earl's tract, which was extended as far as Newcastle. Thence Douglas turned back, laden with English plunder. But the Percies—the Earl of Northumberland and his son Hotspur—aided by the Earl of March, had meanwhile collected a numerous army in his rear. Douglas, hampered by his spoil, came suddenly upon this force, which was posted near the village of Millfield (a few miles N.W. of Wooler). He availed himself of the high ground of Homeldon as a position for his own army, and there the English advanced to attack him. The fight was won by the English bowmen. Douglas himself, severely wounded, was made prisoner, and a complete rout of his followers ensued. Great numbers were drowned in attempting to cross the Tweed. The battle was fought on Holyrood Day, September 14, 1402.*

SHREWSBURY.—The battle of Shrewsbury (July 21, 1403) was fought between the army of King Henry IV. on the one side, and an insurgent force, headed by Hotspur, and various confederates of the Percies, on the other. Shrewsbury, from its position on the Welsh border, formed the head quarters of several of the English kings in military operations undertaken against the neighbouring mountaineers.† Henry IV. had advanced thence into

* This is the battle referred to in the well-known passage:—

—"I remember, when the fight was done,
When I was dry, with rage and extreme toil
Breathless and faint, leaning upon my sword,
Came there a certain lord, neat and trimly dress'd
Fresh as a bridegroom," &c.—*Henry IV. part 1.*

† Shrewsbury appears, either in later British or early Saxon times, to

Wales, to encounter the victorious chieftain, Owen Glendower, who had defeated the forces of the English barons in engagements fought respectively on the banks of the Virnwy and the Teme. The active vigilance of the Welsh chieftain, with the incessant rains of the mountain-land, had combined to frustrate the movements of the English king, and to compel his withdrawal from the principality. It was shortly after these events that the conspiracy of the Percies, which led to the battle of Shrewsbury, was matured. The battle was fought to the eastward of the town, not far from its eastern gate, in the neighbourhood of which the king's army, drawn out from the town of Shrewsbury, was encamped.

Hotspur, at the head of the insurgent forces (amongst whom was the Scottish chieftain, Douglas, taken prisoner at Homeldon the year before, but, with his vassals, fighting at Shrewsbury side by side with his former foes) had marched southward, towards Wales, in expectation of being joined by Glendower, who had entered into the conspiracy, and promised to join his followers to theirs. The king, who had advanced towards the north, turned when he had got as far as Burton-upon-Trent, and directing his course to the westward, reached Shrewsbury in sufficient time to place his army between that of Hotspur and the expected forces of his Welsh ally. The king was scarcely in the town, when he was informed that the insurgent army, with banners displayed, was close at hand. Hotspur halted not far from the royal army, which issued out and encamped beyond the eastern gate of the town. Night was approaching, and the battle was deferred till the morrow. At an early hour on that day, July 21, the armies closed, the contest lasting nearly three hours, and terminating in a complete victory on the side of the royalists. Hotspur, struck by a random arrow, was slain, and Douglas was made prisoner. The young Prince of Wales, Harry of Monmouth (afterwards Henry V.) displayed conspicuously his prowess and military skill, and contributed mainly to a victory which gave assurance to his father's usurped throne.

have supplanted in importance as a military position the older Roman station of Uriconium (Wroxeter) from which it is only a few miles distant. Under the name of Pengwern, it had been the capital of the Welsh kingdom of Powys.—See *ante*, p. 154.

WARS OF THE ROSES. (1455—1485.)

Some of the saddest chapters of English history are those which narrate the prolonged struggle between the houses of York and Lancaster—or the partisans of the White and the Red Rose. When the contest commenced, Henry VI., the representative of the House of Lancaster, was the reigning king. The opposite party was represented by Richard Duke of York, whose son Edward afterwards became king, under the title of Edward IV.* This fatal quarrel, not terminated until after a lapse of thirty years, was signalised (says Hume) by twelve pitched battles, and is computed to have cost the lives of eighty princes of the blood, while it almost destroyed, for a time, the ancient nobility of England. It carried war and bloodshed into every corner of the kingdom, while the scenes of cruelty and devastation, by which the struggle was almost throughout attended, were productive of effects the most demoralising and injurious to the nation at large.

The battles indicated by the historian—one or two of which, however, are scarcely entitled to the epithet which Hume confers upon them—were (in order of date) the following:—

	A.D.		A.D.
1. St. Albans . . .	1455	7. Towton . . .	1461
2. Blore Heath . . .	1459	8. Hedgeley Moor . . .	1464
3. Northampton . . .	1460	9. Hexham . . .	1464
4. Wakefield . . .	1460	10. Barnet . . .	1471
5. Mortimers Cross . . .	1461	11. Tewkesbury . . .	1471
6. St. Albans (2nd) . . .	1461	12. Bosworth . . .	1485

1. The town of ST. ALBANS, which gave its name to two of the contests enumerated in the above list, is a well-known locality. It lies in the western part of Hertfordshire, on the banks of the little river Ver, an affluent of the Coln, and

* The claim of the House of York (it may be useful to remind the student) was founded on descent by the female side, from the Duke of Clarence, *second* son of Edward III. The House of Lancaster represented the family of the Duke of Lancaster (John of Gaunt), the *third* son of the same king.

corresponds to the Roman *Verulamium*, one of the oldest towns (perhaps, indeed, the oldest) in Britain.*

The first conflict between the Yorkist and Lancastrian forces took place on May 22, 1455. It was rather a skirmish in the streets and suburbs of the town, than a battle, in the usual acceptance of the term. The forces of the king were on their way towards Ludlow, in Shropshire, the castle of which was the residence of the Duke of York, and where he had taken up arms. As they left St. Albans, they saw the hills in their front covered with armed men, under the banner of York. The Yorkists forced the barriers of the town, and a brief struggle ensued in the streets, the result of which was the defeat of the royalists, who fled in disorder, leaving behind them the weak king, Henry VI., who was found concealed in the house of a tanner, and remained a prisoner in the hands of his foes.

2. BLORE-HEATH, the scene of the second conflict between the rival houses, September 23, 1459, is a less-known locality. It lies within the county of Stafford, between seven and eight miles N.W. of the town of Eccleshall — not far from the Shropshire border, and little more than two miles distant from Market Drayton, in the last-named county. The adjoining high ground to the eastward belongs to the watershed between the basins of the Trent and the Severn.

Earl Salisbury, the father of the famous "king-maker," Warwick, was marching southward from Middleham Castle, in Yorkshire (the ancestral residence of the Nevils), to join the forces under the Duke of York, which lay within the Welsh marches, when he found his progress opposed by a Lancastrian army under the command of Lord Audley. The Lancastrians had the superiority in point of numbers, but the military skill of Salisbury ensured a victory to his followers. Lord Audley perished on the field of battle, with two thousand of his men.† A conflict which a few weeks later impended between the armies ranged under the rival standards, in the neighbourhood of Ludlow, was averted by the desertion of a considerable body of Yorkist troops (then recently brought over from Calais by the Earl of Warwick) to the Lancastrian cause.

* See *ante*, p. 92. The present name is derived from the martyrdom of Alban (a citizen of the town, and the proto-martyr of Britain), in the persecution under Diocletian, A.D. 297.

† A monument marks the spot where the Lancastrian leader fell. Queen Margaret beheld the battle from the neighbouring church-tower of Muckleston, little more than a mile to the northward.

3. NORTHAMPTON.—The battle of Northampton (July 10, 1460) was fought in the meadows to the south of the town, which is situated on the left or northern bank of the river Nen, in the most central part of England.

A Lancastrian army, under Queen Margaret and her husband, was encamped in the neighbourhood of Northampton, when the Earl of Warwick, who had crossed the Channel (from his government of Calais) towards the end of June, 1460, landed on the coast of Kent. The few followers whom Warwick brought with him swelled to a numerous army, as his popular banner was displayed. Passing through London (the young prince, Edward, heir of York, riding by his side) the Earl advanced rapidly into the midland counties, and met the Lancastrian force at Northampton. The battle resulted in the complete defeat of the Lancastrians: great numbers of the nobility and gentry belonging to that party were slain, and the king was a second time made prisoner — his queen (with her son, Prince Edward) effecting her escape, and ultimately succeeding in reaching Scotland.

4. WAKEFIELD is a considerable town—a great market for the agricultural produce of the adjacent district—in the West Riding of Yorkshire. It stands on the left bank of the river Calder (an affluent of the Yorkshire Ouse), in the centre of a fertile tract of country, now extensively intersected with lines of railway and canal, and exhibiting every attribute of commercial industry.

The battle of Wakefield was fought within less than six months after the Lancastrian defeat at Northampton, on the last day but one of the year 1460. The scene of the battle was the ground then called Wakefield Green, lying between the town of Wakefield and the now ruined castle of Sandal, which the Duke of York had occupied.

The undaunted Margaret of Anjou, after her escape from the field of Northampton, had again roused her supporters to action, and was ere long at the head of an army of 20,000 men. “Soon (says the historian) the gentle hills of England glittered again with hostile lances, and hostile bands, collecting from all quarters, advanced to meet in two great armies.” Their respective leaders were, on the one side, the Duke of Somerset, with the Earls of Northumberland

and Durham, and other supporters of the Lancastrian cause; on the other, the Duke of York in person, aided by the Earl of Salisbury (Warwick's father). The Yorkists imprudently gave battle with very inferior forces, and the Lancastrians gained a bloody victory. The Duke of York was slain, and his head was afterwards, by orders of Margaret, stuck over one of the gates of the city of York. His second son, a boy of twelve or thirteen, flying from the field, was murdered in cold blood by the hands of Lord Clifford. The Earl of Salisbury, escaping from the scene of slaughter, was pursued, taken during the night, and beheaded.

5. The battle of MORTIMER'S CROSS followed quickly upon the slaughter at Wakefield. The locality is a few miles distant from the town of Leominster, in Herefordshire, in the direction of W.N.W., within the fertile valley of the Lugg (an affluent of the Wye), and nearly adjoining the right bank of that stream. Two roads—one of them coincident with the ancient line of highway between the Roman stations of Magnæ (Kentchester) and Bravinnium (Leintwardine), and bearing the name of Watling Street—intersect one another at the spot known as Mortimer's Cross.* The village of Kingsland, a former inheritance of the Mortimers, is two miles to the S.E. of this spot, and is about twice that distance from Leominster. The immediate site of the battle was Kingsland Field, a level plain of some extent, stretching to the southward of Mortimer's Cross, and intersected by a brook which joins the Lugg.

By the death of his father at Wakefield, the title of Duke of York had devolved on Edward, previously Earl of March, who, with an army principally collected in the Welsh marches, and greatly augmented by the indignation felt among the vassals of the house of Mortimer at the recent cruelties of the Lancastrians, put himself in motion northwards, to meet the victorious queen. Margaret, meanwhile, had divided her army—sending one detachment, under the command of Jasper Tudor (Earl of Pembroke, and half-brother to King Henry) against the army of Edward, while with the other and

* A column erected at this spot, at the close of the last century, commemorates the battle.

larger division she herself advanced along the high road to London. Edward encountered the forces of Pembroke at Mortimer's Cross on the 1st of February, and gained a complete victory.

6. The second battle of ST. ALBANS followed closely on that of Mortimer's Cross. Queen Margaret, advancing with the main body of her army towards London, and flushed with her success at Wakefield, fell in near the town of St. Albans with a Yorkist army under the Earl of Warwick. The troops of Warwick occupied the hills to the south-east of the town, and the engagement consisted of a running fight maintained upon the undulating country between St. Albans and Barnet. The Earl's forces were beaten at all points, and he was obliged to retreat: the last stand in his favour was made by the Kentish men upon Barnet common.

Notwithstanding the success of her arms on this occasion, the Queen's army were compelled to retire northwards, while the junction of Edward's army with the broken forces of Warwick enabled the Yorkists to obtain possession of the metropolis, the citizens of which were throughout devoted to the cause of the White Rose.*

7. TOWTON, YORKSHIRE.—Towton is a hamlet in the West Riding of Yorkshire, lying between ten and eleven miles to the S.W. of the city of York, and little more than two miles south of Tadcaster, on the river Wharfe. The battle of Towton was fought on Palm-Sunday (March 28), 1461. The field of battle lies about midway between Towton and the neighbouring village of Saxton, to the left of the high road which connects the towns of Tadcaster and Pontefract.†

The spring of 1461 had seen Edward of York seated on the throne of England, as King Edward IV. But the Lancastrians, with Margaret of Anjou and the Duke of Somerset at their head, were collected in great force behind the Trent and the Humber, numbering

* The victories of Wakefield and St. Albans (second battle of that name) were the only two important successes gained in the open field by the Lancastrians, until the final contest at Bosworth.

† A contest at Ferrybridge, over the river Aire, where the main line of road crosses that river (two and a half miles north-east of Pontefract) preceded the bloody encounter at Towton. Lord Clifford, the Lancastrian leader, was slain at Ferrybridge.

not less than 60,000 men. Edward, by advice of Warwick, determined to meet them on their own ground. A larger number of men were engaged at Towton than had been the case in any of the preceding conflicts, and the battle was in all respects a sanguinary one. It commenced in the midst of a violent snow storm, and lasted from nine in the morning until three in the afternoon, when the Lancastrians were driven from the field by the victorious Yorkists.*

The victory of Towton seemed to assure permanent repose to Edward's followers. By the time that he met his first parliament, in November of the same year, no opposing force remained in the field. But Margaret of Anjou was at large, and was still undaunted and active.

The years 1463 and 1464 were troubled ones, and only the vigilance and conduct of Warwick and his brother Montague preserved the safety of Edward's throne. In 1463, Margaret (who had passed over to France, in search of aid to her cause) landed on the coast of Northumberland. The castles of Alnwick, Bamborough, and Dunstanborough yielded to her, but were subsequently retaken by Warwick. In the following year, she was again in the field, but was defeated, first at Hedgeley Moor, and afterwards at Hexham, by Montague, Warwick's brother.

8. The site of the battle of HEDGELEY MOOR is seven miles south-east of the town of Wooler (Northumberland) at the spot known as Percy's Cross. The hamlet of High Hedgeley is a short distance off, further to the south-eastward. The date of this engagement was April 25, 1464.

9. HEXHAM, NORTHUMBERLAND.—Hexham is a well-known market-town on the south bank of the river Tyne. It lies not far distant from the line of the old Roman Wall between the Solway and that river. On May 15, 1464, Montague surprised there the Lancastrian leader, Somerset, who was captured and subsequently beheaded.

About a year after the battle of Hexham, the Lancastrian king, Henry VI., who had lurked for some time among the moors of West-

* Thirty-eight thousand men, in all, are said to have perished on the field of Towton. Edward had ordered that no quarter should be given. The Duke of Somerset, with Queen Margaret, her husband and her son, escaped to York, and thence into Scotland.

moreland and Lancashire, fell into the hands of the Yorkists, and was carried prisoner to London. He was then lodged in the Tower, to remain captive until the “king-maker”—seven years later—should recall him, for a brief while, to sovereign power.

During the six years that followed the battle of Hexham, no Lancastrian army appeared in the field. But the discontent of the Nevil family—by whatever cause engendered—rendered Edward’s position unsafe and perilous. During Warwick’s residence at his government of Calais, in 1469, a rebellion, of which it is difficult to define the precise objects, broke out among the peasantry of Yorkshire, and soon spread widely. Edward made vain attempts to suppress it, but was obliged to retire into the castle of Nottingham. A battle was fought at *Edgecote*, near Banbury* (July 26), in which a royalist army, under the Earl of Pembroke, was defeated by the insurgents, the earl himself, with 5,000 of his men, perishing on the field.

At Wolvey (or Olney), near the town of Nuneaton, in Warwickshire, Edward was surrounded by his foes, and was only saved by the return of Warwick to England. Thence Warwick took Edward—either as guest or prisoner—to his castle of Middleham.

In the following year (1470) another insurrection broke out in Lincolnshire, but was suppressed by Edward in a battle fought at *Erpingham*, in Rutlandshire.† Immediately after this, we find Warwick in open hostility to the king, but obliged to disband his forces for a time, and to seek a retreat at Calais, which place, however, he found closed against him. Thence Warwick sailed to the coast of Normandy, and it was in the old chateau of Amboise, while dwelling in Normandy as the guest of Louis XI., the French king, that his alliance with the Lancastrian party was negotiated. Then follows the great romance of the “king-maker’s” life.

In September, 1470, Warwick landed on the coast of Devon, and within a few days thousands flocked to his popular standard. He marched at first towards London, but, changing his direction, followed the movements of Edward, who had retired from the capital northwards, towards the Trent. On the banks of the river Welland, the van of Warwick’s army was within half a day’s march of Edward, to whom no resource was left but precipitate flight. He embarked at Lynn, and reached the coast of Friesland a fugitive

* Edgecote is six miles to the north-east of Banbury, and within the Northamptonshire border.

† Erpingham, or Empingham, is five miles distant from the town of Stamford, under the name of which place the engagement here referred to is mentioned by some writers.

and a beggar. Warwick retraced his steps to London, and placed King Henry again upon the throne.

The flight of Edward lasted only five months. By aid of the Duke of Burgundy, his brother-in-law (known in history as Charles the Bold), he reappeared in March, 1471, off the English coast, and landed at Ravenspur,* on the Humber, with 1,200 followers. When the Yorkists had crossed the Trent, they were upon their own ground, and Edward's little band of followers soon swelled into a king's army. Warwick was not unprepared to meet his foe. Near Coventry — whither the Lancastrian army, under Warwick and Clarence (who was married to Lord Warwick's daughter) had advanced — Clarence and his followers assumed the White Rose, and Warwick was compelled to decline a present engagement. Edward advanced to London, and was again a king. He stayed in the capital, however, only two days, and then, taking the great north road, advanced with his followers to meet the army of Warwick. The hostile forces met upon Gladsmoor Heath, immediately north of the town of Barnet.

10. The battle of BARNET was fought upon Easter-Sunday, April 14, 1471. The town of Barnet lies upon the line of the great north road from London, immediately within Hertfordshire, but closely adjacent to the Middlesex border. It stands upon ground of considerable height — said to have been occupied, in early Saxon times, by a thick wood, which was granted to the monks of St. Albans, to whom the origin of the place is due.† It first became a market-town under Henry II.‡

The open ground to the north of the town of Barnet is now known as Hadley common. A column erected, a century and a quarter since, upon the further side of this common, about a mile to

* Ravenspur stood on the north side of the Humber, and was then a frequent place of passage to or from the continent. Henry of Bolingbroke had landed there when he came to dethrone Richard II. The place has long since disappeared, having been washed away by the sea, in the course of the frequent changes which have occurred on that portion of the English coasts.—See *ante*, p. 67.

† The word *Bergnet*, under which name Barnet is referred to in early grants, is said to signify in Saxon, "a small hill."

‡ Barnet was early distinguished for its cattle-fairs. It still retains these; but the railway system has destroyed the importance which its position on the great high road from the metropolis northward long secured to it, as a medium of coach traffic.

the north of Barnet, and at the point where the great north road forks into two, commemorates the battle of Barnet—a conflict fatal to the Lancastrian party.*

11. TEWKESBURY, GLOUCESTERSHIRE.—The town of Tewkesbury, in the extreme north-west of the county of Gloucester, close to the Worcestershire border, is situated on the left bank of the Avon, near the point at which that river joins the Severn. The ground in the immediate neighbourhood of the town is low, and liable to floods from the adjacent waters. Both rivers are crossed by bridges. At the time when the battle of Tewkesbury was fought, all the bridges over the lower Severn had been destroyed by the country people in those parts.

Upon the very day on which the battle of Barnet was fought, Margaret of Anjou and her son had landed on the English coast—at Weymouth, in Dorset.† The Lancastrian queen received the tidings of Warwick's defeat and death, but, encouraged by the great lords who still adhered to her, resolved to try the further issue of arms. Advancing, through Somerset and Gloucester, towards the Welsh border, with the intention of joining the forces under the Earl of Pembroke (Jasper Tudor), she found her progress stayed by the river Severn. Near Tewkesbury, situated where the Severn is joined by the Warwickshire Avon, the army of Edward, headed by him in person, came up with the Lancastrians, and a battle was fought in the fields lying immediately east of the town. This was on May 4, — three weeks after the battle of Barnet. The fight was short, but bloody: it ended in the complete defeat of the Lancastrians. The young Prince Edward, Margaret's son, was brutally murdered by the hands of the victor, and the queen herself remained a prisoner.

A fortnight after the slaughter of Tewkesbury, Edward of York entered London in triumph, at the head of 30,000 men. On the following morning, the unhappy King Henry (taken captive on the

* The battle of Barnet was on a scale of inferior magnitude, so far as the numbers engaged on either side is concerned, to some of the other contests of the period. But the results were decisive. Warwick and his brother Montague fell on the field, and their bodies, carried to London, were exposed to public gaze in the church of St. Paul. Few of the Lancastrian lords escaped from the field, and the triumph to Edward's arms was complete.

† Some writers say, at Plymouth.

field of Barnet), was found dead in the Tower. The triumph of the house of York seemed complete. But it was reserved for another field to terminate, fourteen years later, the disastrous Wars of the Roses.

12. BOSWORTH, or Market Bosworth,* is a well-known town in the western part of Leicestershire, about eleven miles due west of the town of Leicester, and in the very heart of England. Bosworth is pleasantly situated upon rising ground, watered by several small streams, affluents of the river Anker, which flows for a short distance along the Leicestershire and Warwickshire border, a few miles S.W. of the town. The battle of Bosworth was fought on a spacious plain, which begins about a mile south of the town, and exhibits at the present time few traces of its condition at that day. The ground is now partly covered by wood.†

Richard III. had been two years and two months on the throne when the battle of Bosworth was fought. Henry, Earl of Richmond, who then represented the claims of the house of Lancaster, had landed at Milford Haven, marched through Wales, and thence, crossing the Severn, advanced into the heart of England. The battle of Bosworth, though decisive in its results, was on a scale much inferior to that of several of the preceding conflicts. Including both armies, there were not above 18,000 men on the field, and the greater part of these were not actually engaged in the fight.

The battle of Bosworth is regarded as the termination of the Wars of the Roses. The marriage of the victorious Richmond, become Henry VII., with the Princess Elizabeth of York, reconciled the claims of both houses. But when Henry had reigned scarcely two years, a final attempt to expel the house of Lancaster from the

* By distinction from Husbands Bosworth, in the same county, six miles east of Lutterworth.

† A spring known as King Richard's well, from a tradition that the king quenched his thirst there during the battle, is shown to the curious inquirer. A monument was erected over it, half a century since, at the instance of Dr. Parr. The spot where Lord Stanley, after the battle, placed the battered crown of Richard upon the head of Richmond, is still known as Crown Hill. Numerous relics of the battle have been turned up, at various times, by the spade or the plough.

throne was made on behalf of the impostor Lambert Simnel, really the son of a baker, but who claimed to be Edward Plantagenet, Earl of Warwick, son of the Duke of Clarence, and nephew of King Edward IV.* Simnel had found supporters in Ireland, and had been crowned in the cathedral of Dublin by the title of Edward VI. With a force chiefly composed of Irish and Germans, and under the leadership of the Earl of Lincoln and Lord Lovel, Simnel landed on the Lancashire coast, at the old castle known as the Peel of Foul-drax,† and thence marched southward. King Henry, meanwhile, after passing through the eastern counties, had advanced into the centre of the kingdom. Thence proceeding northward, he encountered the army of the rebel leaders near the village of *Stoke*, situated on the brow of a hill, a short distance S.W. of Newark, and not far from the south bank of the Trent.

The battle of *Stoke* was fought on June 16, 1487. The insurgent army was completely routed, not however without an obstinate contest of three hours' duration. Simnel was taken prisoner. The Earl of Lincoln, with several other leaders of his party, died fighting. Lord Lovel was seen to escape from the field, but was never more seen, and it was supposed that he had been drowned in attempting to cross the river Trent.‡

A battle fought at *BLACKHEATH*, near London (June 22, 1497) belongs to this period. The contending parties were a body of Cornish insurgents on the one side, and the king's troops on the other.§ The men of Cornwall, to the number of 16,000, had marched

* The real Earl of Warwick was at the time a prisoner in the Tower of London. Twelve years later, he was beheaded on Tower Hill, for alleged complicity in the schemes of Perkin Warbeck.

† A small island adjacent to the Furness shore, near the west side of the entrance of Morecambe Bay.

‡ Long after, when the race of the Tudors had gone to their account, and when the dynasty of the Stuarts had been driven out of the kingdom, — nearly two hundred years from the time of this forgotten battle of *Stoke*, — some workmen accidentally discovered a subterranean chamber at Minster Lovel, in Oxfordshire, the ancient seat of the adventurous lord. Within this chamber was a skeleton of a man seated in a chair, with his head resting on a table; and these sad relics were supposed, with some reason, to reveal a tale of horror.

§ This insurrection was indirectly connected with the pretensions of Perkin Warbeck. The taxes raised for the purpose of suppressing Warbeck's inroad from the Scotch border had seemed to press with undue severity upon the Cornish population, who thought themselves aggrieved at being called on to pay their share towards the defence of the northern frontier.

through the southern counties into Kent, and were encamped on Blackheath. Their leaders were Lord Audley, an attorney named Flammock, and a blacksmith of the name of Joseph. The royal forces were headed by Lord Daubeney and the Earl of Oxford, Henry himself, with a body of reserve, being stationed in St. George's Fields, on the south side of London. Lord Daubeney, after a sharp struggle at Deptford Bridge, drove in the advanced post of the insurgents and established himself on the heath, in front of the rebel forces, while Lord Oxford attacked them in the rear. The Cornishmen, though without horse or artillery, fought bravely, and did not yield until two thousand of their number were slain.*

FLODDEN.—The battle of Flodden, fought between the English and Scottish armies, on the 9th September, 1513, may be conveniently referred to in this chapter.

The site of Flodden is within the county of Northumberland, towards its extreme north, near the foot of the Cheviot Hills, and not far from the Scotch border. The tract of country which is here nearly enclosed between the streams of the Beaumont, the Till, and the Tweed, includes the fatal 'Flodden Field,' so often commemorated in Scottish history and song.

The river Till descends the south-eastern slope of the Cheviots, flowing first in an eastwardly and afterwards a northwardly direction. Within this part of its course, it bears the name of the Breamish. About midway between the small towns of Wooler and Belford, the stream turns to the north-west, and assuming thence the name of the Till, ultimately joins the Tweed upon its right bank—about 3 miles below the town of Coldstream, and 4 miles above the site of Norham Castle. The Till receives several small affluents on its left bank, the two most considerable of them

* Blackheath is a locality associated with numerous events of historic interest. Cade had encamped there with his rabble forces, in the insurrection of 1450. Foreign sovereigns or their representatives, upon occasions of visits to England, were frequently met there, on their arrival, by the delegates of the English government. When Charles II., after his years of exile, returned to his dominions, the army which had so often contended against his father in the field was drawn up there, to form, perhaps, in the reluctant welcome which its members accorded, the only exception to the enthusiastic burst of joy with which he was greeted by the nation at large.—Macaulay: chap. i.

being the Lill Burn, which passes Wooler, and the Beaumont or Glen river, which joins the Till at a point nearly three miles N.N.W. of the last-named town.* Below the junction of the Beaumont, a much smaller stream, the Pallins Burn (the whole length of which is only three miles), joins the Till on its left bank. Ford Castle, with the adjacent village of Ford, and likewise Twisell Castle, lie adjacent to the right bank of the Till, which is crossed, immediately below the latter, by Twisell Bridge. The remains of Wark Castle are on the right bank of the Tweed, between two and three miles above Coldstream.

The ground which lies west of the lower Till forms a moderately level plain of some extent. This is enclosed on all sides but the west by the courses of the Tweed, the Till, and the Beaumont or Glen river. Westward, it rises by a gradual ascent towards the hills which adjoin the right bank of the Tweed, immediately north of the Cheviot region. The extent of the plain is about eight miles in the direction of N.W. and S.E., by from two to three miles in the opposite direction. Its southward portion is known as Millfield Plain. The more central portion, within which are the village of Branxton and the little stream of Pallins Burn, formed the battle-field of Flodden. Two hamlets, distinguished as East and West Flodden, lie within this portion of the plain, about midway between Branxton and Millfield. The road between Coldstream and Wooler traverses the field of Flodden, passing immediately to the north of Branxton, and through the hamlet of Millfield, skirting the left bank of the river Till, and crossing the Beaumont or Glen river two and a half miles N.W. of Wooler. The road from Coldstream to Berwick, along the south bank of the Tweed, crosses the Till by Twisell Bridge.

* The tract included between the Breamish, Till, and Beaumont rivers, forms the true Cheviot region—that to which Cheviot Hill, 2658 feet, and Hedgehope, 2347 feet, belong. The upper portion of the Lill Burn valley intervenes between those hills.

The battle of Flodden was fought between the army of James IV. of Scotland, commanded by that monarch in person, and the English army under the Earl of Surrey. The Scotch king had made an inroad within the English border, and remained upon English ground in acceptance of Surrey's challenge to abide his attack. The English commander, who had not chosen to attack the Scots in the position which their king had first selected, finally advanced by the right bank of the Till, which river he crossed with his army at Twisell Bridge, to the *northward* of the position occupied by the Scottish army. The retreat of the Scots to their own side of the border was thus cut off, as the army of Surrey advanced from Twisell Bridge into the plain enclosed by the Till and the Tweed, with a view to occupy the high grounds above Branxton, and it became impossible to avoid a battle. Hence, in the contest, fatal to the Scotch, which ensued, the army of James occupied the more southwardly of the positions finally taken up by the respective armies on the field of battle, the English army facing them from the northward. The vanguard of the English had already advanced into the plain as far as the little stream of Palinsburn, when the Scotch army was discovered, advancing towards them. The battle began about 4 o'clock in the afternoon, and lasted until the carnage upon either side was stayed by night.

The fifteenth century, to which many of the occurrences referred to in this chapter belong, embraces perhaps a greater number of events important in the history of the world than belong to any similar period. The invention of Printing, the birth of Luther and prior dawn of the Protestant Reformation, the conquest of Constantinople by the Turks, the capture of Granada and expulsion of the Moors from Spain, the first passage to India by way of the Cape of Good Hope, and the discovery of the New World, all fall within its limits. The fifteenth century was in the truest sense an age of transition, one in which the traditions of former times were beginning to pass away, in which the intelligence and inquiring spirit of mankind were thoroughly aroused, and in which the fruits of this awakening were already becoming visible in the effects produced on the whole frame-work of society.

The changes, social and otherwise, that belong to the period, were not less important in the case of England than in other countries. The closing years of the 15th century saw the settlement of the house of Tudor upon the English throne. Already, before the date of the battle of Bosworth, the printing-press of Caxton had been set up within the precincts of Westminster. Before the century had

closed, the mariners of England were entering on the career of maritime adventure and discovery which the Portuguese and Spanish nations had hitherto engrossed to themselves.

From about the middle of the fourteenth century, the commerce and wealth of the English nation had begun to increase rapidly. The advance in these regards had steadily continued during the fifteenth century, and at the termination of the wars between the houses of York and Lancaster, notwithstanding the devastation by which they had been attended, the commercial prosperity of the English nation stood higher than at any former time.* Indeed the progress of that unhappy struggle was in no unimportant degree connected with the advancing trade of England, as well as with the growth of influence and intelligence on the part of the town populations. The popular leaning displayed, almost throughout, on behalf of the house of York, was in great measure the result of the favour with which the commercial interests of the citizens of London and other towns were regarded by the princes of that house. The citizens of London were almost uniformly supporters of the White Rose, and the towns in general, throughout the kingdom, followed the example of the metropolis. The prosperity of the traders of London was intimately connected with that of the Flemish merchants beyond the sea, and the citizens regarded with favour the alliance between Edward IV. and the Flemish Court.

THE HANSEATIC LEAGUE.—The growth of towns is intimately connected with the extension of commerce. As the citizens, with increasing numbers and trade, advance also in wealth and power, they are led to adopt measures of protection against the exactions of those feudal superiors by whom, in a former age, they would have been plundered of their earnings with comparative impunity. The risks to which, especially in an unsettled state of society, goods are necessarily exposed in their transit to distant markets, whether by land or sea, naturally lead merchants and traders to seek for means of protection against the losses to which they are thereby liable. For such purposes of self-protection, more than one league or union of cities was formed during the middle ages. The most important of

* The merchants of Bristol, under Henry VI. and Edward IV., had ships of 900 tons burthen. The trade and even the internal wealth of England reached so much higher a pitch in the reign of the last-mentioned king than at any former period, that we may perceive the wars of York and Lancaster to have produced no very serious effect on the national prosperity.—Hallam: *Middle Ages*, chap. ix. part 2.

these was the famous Hanseatic League or Union, which was intimately connected, during a lengthened period, with the commerce of England. The *Easterlings*,* so often referred to in the pages of Hume and other historians, were the merchants of the Hanseatic confederacy, by whom nearly the whole commerce of northern and western Europe was long engrossed.

The formation of the Hanseatic league † dates from the middle of the 13th century. It was founded by the commercial cities which had grown up, in the course of the preceding century, upon the shores of the Baltic, and the traders of which determined to combine in a league of mutual defence against piracy and pillage, by sea or land. Eighty of the most considerable towns of northern and western Europe were at one time comprehended within the Hanseatic confederacy. These were divided into four companies or colleges, of which Lubeck, Cologne, Brunswick, and Dantzic were the representatives. Lubeck held the chief rank. It was the business of the league to discuss and regulate all matters — whether mercantile, political, or military — that concerned the interests of its members. Hamburg, Bremen, Rostock, Stralsund, Weimar, Stettin, and numerous other towns, were members of the league. It had four principal factories in foreign parts; these were, London, Bruges, Bergen, and Novgorod. The sovereigns of the countries to which these cities belonged conferred important and exclusive privileges upon the merchants who were members of the confederacy, and during a term of three centuries nearly all the foreign trade of western Europe was conducted by their hands. In England, the merchants of the Hanseatic towns were erected into a corporation by Henry III., and endowed with special privileges which were preserved down to the reign of Edward VI.

* From the *Ost See* (i. e. East Sea) the name given to the Baltic by the nations who dwell around its shores.

† The word Hanseatic is derived from *hansa*, a customs' league, or *hansen*, to associate. The four modern Hanse towns — Hamburg, Bremen, Lubeck, and Frankfort on the Main, preserve the memory of this famous league to the present day.

CHAPTER X.

ENGLISH GEOGRAPHY DURING THE TUDOR PERIOD.

The Tudor period of English history (1485–1603) exhibits, in higher measure than any other, with the exception of that comprehended within the last three quarters of a century, a rapid growth in all the elements of national greatness. The population made greater numerical advance during the sixteenth century than at any former period, and the manufactures, trade, and social condition of the people, exhibited equal progress.

POPULATION.—In the later part of the 14th century, at the close of Edward III.'s reign, the population of England and Wales does not appear to have exceeded two and a half millions;—i.e., only half a million beyond its amount at the time of the Norman conquest. In the later half of the 16th century, the population numbered probably not fewer than five millions. This increase is generally regarded as chiefly due to the period subsequent to the accession of Henry VII. to the English throne. During the seventy years which immediately preceded that event, the French wars of Henry V., and afterwards, the disastrous contest of the houses of York and Lancaster, had been attended by vast loss of life, and had tended to check any considerable addition to the numerical strength of the nation.*

The proportion which the town population bore to that

* The supposed large numerical increase of the English people during the sixteenth century has, however, been doubted.—See Froude, *History of England*, chap. i. All estimates of the population of England, prior to the sixteenth century, are little better than guesses. On the subjects treated in this Chapter, the student will consult with advantage Macaulay: *History of England*, chap. iii.

of the country at large continued to increase during the same period. In the latter part of the 14th century, England had fewer than thirty towns containing upwards of two thousand inhabitants each; only eight contained so many as five thousand inhabitants each, and only one, besides the metropolis, had upwards of ten thousand.* The entire town population at that period is estimated at about 170,000 persons, or little more than a fifteenth of the total population of the kingdom. This proportion was greatly exceeded in the time of Elizabeth, when the population of London alone amounted to not much less than a thirtieth of the numbers of the nation at large.

TOWNS. — The principal cities and towns of England took widely different places in the scale of relative importance, in the sixteenth century, from that which they occupy in the present day. The great seats of modern manufacture and commerce had then no existence, excepting as mere villages, or at most, as unimportant towns, with only a few hundreds of inhabitants; while the older cities in the more strictly agricultural parts of the island (now diminished, with few exceptions, to places of third or fourth-rate rank, in respect of population), were then amongst the most populous centres of wealth and industry. York, which is now exceeded in number of inhabitants by above a score of other places, was then second only to the metropolis in point of population as well as dignity. Liverpool, which has now nearly half a million of inhabitants, and surpasses any other place in the kingdom, except London, in point of population, was in the middle of the 16th century an insignificant port,

* London had then (1377) about 35,000 inhabitants; York, nearly 11,000; Bristol, 9,500; Plymouth and Coventry, 7,300 each; Norwich, 6,000; Lincoln and Salisbury, about 5,000 each; Lynn, 4,700; Colchester, 4,400; Beverley and Newcastle-upon-Tyne, 4,000 each; Canterbury, 3,900; Bury St. Edmund's, 3,700; Oxford, 3,600; Gloucester, 3,400; Leicester, Shrewsbury, and Yarmouth, about 3,000 each; Hereford, 2,800; Ely and Cambridge, 2,500 each; Exeter, Worcester, and Hull, 2,300 each; Ipswich, Northampton, Nottingham, and Winchester, between 2,300 and 2,100 each. None of the other towns had so many as 2,000 inhabitants.—*Pictorial History of England*, book v. chap. 7.

with fewer than a thousand inhabitants and scarcely more than two hundred tons of shipping.

Next to London, the most considerable shipping ports of England, in the 16th century, were Bristol, Hull, Yarmouth, and Harwich. After these came Newcastle-upon-Tyne, Boston, Lynn Regis, Southampton, and Plymouth. The Cinque Ports, on the coasts of Kent and Sussex, though still retaining most of their ancient privileges, had lost much of the importance which belonged to them at an earlier date.* Among the most considerable

* The Cinque Ports, originally, as the term implies, five in number, were certain ports on the coasts of Kent and Sussex, the importance attaching to which from their geographical position with respect to the opposite shores of the Continent, especially upon occasions of war, early led to their endowment with special immunities and privileges at the hands of successive English monarchs. Three of these ports—Dover, Sandwich, and Romney,—possess charters originally conferred by Edward the Confessor, and afterwards confirmed by William the Conqueror. The extension of like privileges, at a somewhat later date, to Hythe and Hastings, led to the bestowal of the term ‘Cinque Ports’ as a collective designation of what were long accounted ‘the five principal havens’ to which the early kings of England looked for naval service and aid on occasions of threatened invasion, or danger to be encountered by sea. Rye and Winchelsea were subsequently added to the list of privileged ports, making the number seven, but the appellation ‘Cinque’ was still retained. To each of these seven municipalities there were attached subordinate members. Thus, Folkestone, a few miles west of Dover, was a dependent ‘limb,’ or member, of that port; similarly, Deal was a member of the port of Sandwich, to which it was annexed in the 13th century. The entire organisation of the Cinque Ports comprehended 16 corporations, with 12 unincorporated members; the body being presided over by a Lord Warden, whose office, now little more than nominal, is retained to the present day. The rights and privileges of the Cinque Ports were expressly recognised by Magna Charta, and special charters have been granted to them by various sovereigns of England, from Edward I. down to Charles II.

In return for the privileges and immunities which they enjoyed, the Cinque Ports were bound to provide a certain number of ships, with their specified quota of men, for the defence of the coast, when called upon to do so by the sovereign, and to maintain them at their own cost for the term of fifteen days. If their services were required for a longer period, the additional expense of victualling and wages was defrayed by the state. By the terms of Edward I.’s charter, fifty seven ships in all, each with 21 men on board, had to be provided every time the king crossed the seas. To this equipment, Dover contributed 21 ships, Hastings the same number, Sandwich five, and the smaller ports various minor contingents, according to their respective sizes.

The establishment and growth of a national navy—begun under Henry VII.—prepared the way for the decline of the Cinque Ports

seats of manufacture or inland trade, were York, Coventry, Norwich, Chester, Worcester, Exeter, Winchester, Lincoln, Salisbury, Colchester, Leicester, Shrewsbury, Ipswich, and Northampton. Several of the older corporate towns, however, were declining in population, owing to the injurious influence which their restrictive privileges exerted upon trade, in the limitations imposed upon the exercise of particular branches of industry. This was the case with York, Chester, Lancaster, Coventry, Lincoln, and Winchester; while other places, where no such restrictions existed, were flourishing, by means of the industry which they attracted thence. Birmingham and Manchester were already fast rising in importance, the former by means of its hardware trade, the latter by its manufacture of rugs, friezes, and other woollen goods. Taunton, Bridgewater, Chard, and other places in the west of England, were already famous for their broadcloths; Worcester, Evesham, Droitwich, Kidderminster, Bromwich, and Coventry, also shared in the cloth-manufacture.*

LONDON, in the time of Elizabeth, had vastly outgrown its earlier dimensions. Its population was not much under 150,000. It was then, as it continued to be down to a much later period, a walled city. The circuit marked out by the walls—extending from the Tower on the east to Blackfriars on the west, and reaching from the river northward to Moorfields—was little more than two and a quarter miles; and the whole space comprehended within the walls was considerably less than one square mile. At various points, however, upon the east, north, and west, the buildings of the London population stretched beyond the walls, and the single bridge which crossed the Thames connected

as a privileged community. The changes effected by the hand of nature contributed to the decay of several among them—as Sandwich, Romney, Rye, and Winchelsea—the ancient harbours of which have become either partially or wholly choked by the accumulation of sand. Many of their peculiar privileges, however, have only been taken away within the present century.

* Pictorial History of England; book vi.

the city with its populous suburb of Southwark. But Westminster was still a distinct city, and the long roadway of the Strand, beginning to be lined on either hand with the mansions of the nobility — had to be traversed in communicating between the two. The village of Charing* formed a resting place upon the way. Clerkenwell, already a populous resort, lay a considerable distance beyond the city precincts, forming a somewhat distant suburb of the metropolis, and Islington was a country village. So also was St. Giles's, upon the great western highway of Holborn, though buildings were fast advancing in that direction. Along the line of Bishopsgate and Shoreditch, also, the buildings already stretched far beyond the city gates. But in other quarters the open and almost untenanted space known as Moor Fields reached close up to the city walls: the names of Spittle Fields and Finsbury Fields denoted like open and comparatively waste localities.†

(London is one of the oldest of English cities. (It had held the rank of a colony under the Romans,‡ and filled a conspicuous place throughout the Saxon period.) It ranked in the sixth century as the capital of the East Saxon kingdom, and at a later time became, alternately with Winchester, the capital of Saxon England. Bede, at the beginning of the 8th century, speaks of London as a great market, which traders frequented both by land and sea. During the reign of the early Norman kings of England, the royal treasure was still kept at Winchester. But from the time of Henry II. downward, London became the sole seat of government, and the sole capital of the realm.

London advanced rapidly under the Plantagenet kings.

* The present Charing Cross.

† Such names as Hatton Garden, Saffron Hill, Mount Pleasant, and numerous others of like import, often met with in neighbourhoods now densely populated, preserve the memory of the open (or nearly open) country through which they once formed a way. Shakspeare makes Gloucester refer to the 'good strawberries' which he had seen, when last in Holborn, in the garden belonging to 'my lord of Ely.'—(Richard III., Act iii. scene 4.)

‡ See *ante*, p. 92.

Already, in the reign of the 'lion-hearted' son and successor of Henry, the display of wealth made by its citizens is said to have attracted the admiring envy of the German barons who accompanied the king on his return to England, after his release from captivity. In the 14th century, its population within the walls numbered probably from 35,000 to 40,000. This was independent of its already extensive suburbs.* By the middle of the 16th century, the number of its inhabitants had increased to threefold this amount. The rapidly growing magnitude of the metropolis had been the occasion of needless alarm to the ruling powers of the realm, and Elizabeth issued many proclamations designed to check the great increase in the number of new buildings, without, however, producing much effect. Edicts to the same purpose, and with as little result, were renewed by her immediate successor.†

The name of London Wall, applied to a well-known thoroughfare in the metropolis, preserves to popular knowledge the course which a portion of the ancient city enclosure took.‡ In like manner, the names of Ludgate, Newgate, and other well-known appellations, serve to indicate the localities of the gates by which alone, in former times, the city was entered. Of these gates, there were — from Blackfriars to the Tower — seven: viz., Ludgate, Newgate, Aldersgate, Cripplegate, Moorgate, Bishopsgate, and Aldgate.

That portion of the present city area which immediately adjoins Ludgate on the west (the modern Ludgate Hill and Fleet Street) was not included within the London of the Elizabethan period. The Temple Bar of our day did not then exist, but its place was marked by an open railing or palisade, which was closed at night, or on occasions of danger, with a barricade of chains and posts.

The river Fleet, which limited Blackfriars to the west,

* Hallam: *Middle Ages*, chap. viii.

† Hume: Appendix to reign of James I.

‡ The line of Walbrook (the Wall Brook) marks the western border of the earlier London of the Roman period.

then flowed as an open stream, meandering through the pleasant fields on the north side of the Thames, as did the Effra and other streams to the south of the river. The Fleet was traversed by bridges across the lines of the present Fleet Street and Holborn. The name of Holborn Bridge preserves to the present day the familiar record of a stream which has long ceased to serve any other purpose than that of an underground sewer.*

The direction of the chief highways, and also of the cross-streets and lanes, of the London of Queen Elizabeth's day, coincided in most regards with those of the modern metropolis. Cheapside, Lombard Street, Eastcheap, Fenchurch Street, Fish Street, Gracechurch (i. e. Gracious) Street, Bishopsgate and others, already bore, and had indeed long previously borne, their distinguishing names.

The site of Westminster Abbey, in proximity to which a city (long separated from London by a wide intervening space of open country) had grown up, had been originally insulated by a branch of the Thames. The low and marshy tract thus enclosed by the river was known as Thorney Island. A religious edifice had existed upon this spot as early as the 7th century. The magnificent abbey-church of the present day dates from various periods between the reigns of Henry III. and Henry VII., and occupies the site of the prior structure erected by Edward the Confessor. The abbey of the Confessor had fallen greatly to decay in the time of Henry III., and was hence taken down, and the building of the newer edifice commenced.† Westminster Hall, between the Abbey and the river, owes its erection to William Rufus.

YORK, situated on the pleasant banks of the Ouse, in the midst of the most extensive river-valley in the island,

* The Danish king, Canute, had sailed up the Fleet as high as Holborn Bridge.

† Every sovereign of England, from William I. downwards, with the sole exception of Edward V., has been crowned in Westminster Abbey, and several of our kings have been interred there.

had from very early times ranked second only to the metropolis in point of dignity. It was the Roman *Eburacum*, and the *Eoforwic* of the Saxon period. During the later period of Roman rule in Britain, York may indeed be in some measure regarded as the capital of the Roman province. The emperor Severus died there, as also did Constantius Chlorus, the father of Constantine the Great.

York was the capital of the Saxon kingdom of Deira, and afterwards of Northumbria. The magnificent minster of York is of Norman date, but occupies the site of an early Saxon edifice, built by Edwin, King of Northumbria, in 625. Its castle dates from the time of William the Conqueror. At the time of the conquest, York is said to have had 10,000 inhabitants.*

BRISTOL, situated on the north bank of the Avon, eight miles above its entrance into the sea was the great port of the western counties, and the rival of London in point of foreign commerce. Bristol had existed in the earlier portion of the Saxon period.† As early as the reign of Henry II., it was rich and flourishing, carrying on trade with Ireland, and also with foreign countries. Its manufactures, too, were early important, and it supplied great part of the kingdom with woollen goods, as well as with sand and glass. The 15th and 16th centuries form the most flourishing period of its history. The merchant-adventurers of Bristol had a large share in the early voyages of discovery on the opposite side of the Atlantic. Cabot and his sons had settled there towards the close of the 15th century, and the first attempt at the colonisation of Newfoundland was undertaken thence. The population of Bristol were long conspicuous for the extent to which they engaged in

* The printing-press was introduced into York comparatively early after its first appearance in Britain—thirty-eight years later than the date of Caxton's labours in Westminster.

† Probably, indeed, during the Roman and antecedent British period. The name *Bricgstow* appears to be of Saxon origin, and to indicate a place of passage over the Avon, or else the passage of the river through the rocks immediately below the town (at the modern Clifton).

colonial traffic, and the thriving trade which its merchants carried on with the English plantations in North America and the West Indies continued to enrich the town.*

HULL stands on the north side of the Humber estuary, at the point where it receives the river Hull, and constitutes the chief outport for the extensive region of the united Ouse and Trent drainage. Before the close of the 13th century, the town which occupied the site is said to have been called Wyke-upon-Hull. Edward I., in 1296, changed the name to Kingstown-upon-Hull (in distinction from Kingstown-on-Thames), and began the formation of its harbour. The place had already a good trade in the export of wool and leather, and from this date increased rapidly. Edward granted a charter by which it was constituted a free borough, and Hull had at one time a mint of its own.

In 1339, when Edward III. invaded France, Hull supplied sixteen ships and 500 men, while London contributed on the same occasion no more than 25 ships and 700 men. Charters were granted to Hull by several successive monarchs, and Henry VI. bestowed on it the privileges of a distinct county.†

Both YARMOUTH and HARWICH were relatively much more important in the 16th century than at the present day. Yarmouth existed in the time of Domesday. Under Henry III. the town was fortified, being surrounded by a wall and moat. If it be true, as stated, that 7000 of its inhabitants died of the plague in 1348, it must have been at that time one of the most populous places in the kingdom.‡

* See Macaulay's account of Bristol at a later period.—*History of England*, chap. iii.

† Towards the close of the 15th, and afterwards in the 16th and early part of the 17th centuries, Hull suffered greatly from pestilence, half its population perishing from this cause.

‡ The moderate number of its population, a generation later in date (see *ante*, p. 186), may be explained by this circumstance.

Harwich is of Saxon (if not of Roman) origin, and early became important after the era of the Conquest. Its position with respect to the continent long rendered it a chief place of departure and arrival to and from the Low Countries, and thence to other parts of Europe.

BIRMINGHAM.—The manufacturing greatness of Birmingham is of modern date, but the origin of this capital of the iron district dates as far back as the time of Alfred. The town is mentioned in Domesday-book.

Birmingham early acquired a reputation for its iron-wares. It is described by Leland, in the 16th century, as "a good market-town," of which the beauty was "one principal street, a quarter of a mile long." It was "inhabited by smiths, that use to make knives, and all manner of cutting tools, and many lorimers that make bits, and a great many nailors."*

SHEFFIELD, the capital of Hallamshire (as that part of Yorkshire which borders on the county of Derby has been called from a very ancient period), stands in the fertile valley of the Don, where it is joined by the little stream of the Sheaf. Like our manufacturing towns in general, Sheffield owes its greatness chiefly to modern enterprise, but the characteristic feature of its industry had belonged to it from an early date. At the close of the 13th century, the town had already acquired repute for its arrow-heads, and its well-known "whittles," or knives.†

In the later half of the 16th century, the growing prosperity of Sheffield received an impulse from the persecutions of the Duke of Alva, in the Low Countries. Of the numerous artisans driven to emigrate thence into England, the workers

* During the Civil War, the people of Birmingham supplied great quantities of sword-blades to the Parliamentary forces. They refused compliance, however, with the King's demand for a like service. The making of fire-arms was not introduced into Birmingham until the beginning of the last century.

† They are mentioned by Chaucer, in the *Canterbury Tales*.

in iron were settled at Sheffield, on the estate of the Earl of Shrewsbury, then chamberlain to Queen Elizabeth. Mary Queen of Scots passed fourteen years of her weary imprisonment successively in Sheffield Castle and the Manor-house of that name, in the custody of the sixth Earl of Shrewsbury. In the time of Queen Elizabeth's successor, however, Sheffield is described as a singularly miserable place, containing about two thousand inhabitants, of whom a third were half-starved and half-naked beggars.*

NORWICH, the largest city (next to London) on the east side of the island, and the capital of the eastern counties, was relatively much more important and considerable in the 16th century than at the present day. Its origin dates from early Saxon times, when it grew up coevally with the decay of the old Roman station, Venta of the Iceni (situated at Caistor, three miles to the southward), and relatively to which it became designated as the North-wic, or town. The fortress which occupied the site of the present castle had been the residence of the East Saxon kings. Norwich grew rapidly into importance, and is said to have already had, in the time of Edward the Confessor, 1320 burgesses and 25 parish churches.

The manufacturing greatness of Norwich dates from the time of the early Norman kings. In the time of Henry I. a colony of Flemings settled at Worstead—a village situated twelve miles to the north-eastward of Norwich, and brought with them the practice of their handicraft skill in the making of woollen fabrics.† These settlers finally took up their abode in the city of Norwich. The branch of industry which they had introduced continued to flourish, and other colonists from the same region settled in the locality at various subsequent times. In the time of Henry VI., the woollen manufactures of Norwich entered into compe-

* Macaulay: *History of England*, chap. iii.

† The name of *worsted*, applied to a particular kind of woollen texture, was originally derived from this place.

tition in the foreign markets with similar fabrics produced in the parts of the continent whence the art had been introduced. Four thousand Flemings settled at Norwich in the early years of Elizabeth's reign, and the practice of their art became greatly extended. New textures, composed of mixed wool and silk, were invented, and the fabric known as bombazine was produced in 1575. Norwich has never ceased to retain its reputation for works of such a description down to the present day, though long since greatly surpassed in population by the manufacturing cities of the north-western district.

MANCHESTER (the Roman *Mancunium*) dates its origin from an early period. It was in Saxon times the abode of a thane, and is mentioned in Domesday as being in possession of a church. Its inhabitants had acquired some reputation for manufacturing skill at a very early period. In the reign of Edward II., Manchester—in common with many other places in Lancashire and Cheshire—was known for its friezes and “cottons.” These last, however, were in reality a species of woollen fabric, and the introduction of the vegetable fibre (the produce of the cotton-plant) which has made Manchester so flourishing in modern times dates from a comparatively late period.* A number of Flemings settled in the town during the reign of Edward III., and Manchester soon became famous for its rugs and friezes.

LIVERPOOL has throughout grown in importance coevally with the increase in the manufacturing prosperity of South Lancashire and the adjacent parts of Cheshire, of which it forms the chief outport. It is less ancient than Manchester. No mention of it occurs in Domesday-book, whence its origin is generally referred to a period subsequent to the Norman conquest.†

* Cotton appears to have been first brought to Manchester from Smyrna and Cyprus in the early part of the 17th century. Its manufacture cannot be traced farther back than the reign of Charles I.

† The derivation popularly attributed to the name of this town—now

Liverpool received its first charter of incorporation from Henry II. in 1173. King John conferred on its inhabitants a second charter, and a third was granted by Henry III. In 1565, however, Liverpool contained only 138 householders, and owned 223 tons of shipping. The first dock (and long the only one) that it possessed was not constructed until upwards of a century after the close of the Tudor period of English history.

ROADS.—Nothing in the condition of modern England contrasts more strongly with its aspect at a former period than the means of conveyance from place to place—whether as regards the roads themselves, or the vehicles by which they are traversed. The Romans were probably the earliest road-makers in Britain, and their public ways—designed principally for military uses—have survived in part even to the present day.*

We know little about the means of communication between place and place enjoyed by our ancestors during the Saxon and early Norman periods. But they must have been exceedingly imperfect. The first law relating to public highways (i.e. roads leading from one market to another) was passed in 1235, under the vigorous administration of Edward I. This act was chiefly designed for the prevention of robberies, of which the roads were then the frequent scene. The “bushes, woods, or dykes,” upon either side of the way, served to shelter robbers. In the reign of Edward III. a toll was levied for the repair of the highways. This related exclusively to the thoroughfares leading out of London, which “by the frequent passage of carts, wagons, and horses,” were become so miry and deep as to be almost

the second place in Britain in point of population, and the largest seat of foreign trade in the world—calls up images that contrast strikingly with its condition in the present day. A bird called *the liver* (apparently one of the ibis tribe) is said to have frequented a marshy pool once existent where the lower portions of the town now stand. The corporate seal of Liverpool bears the image of this bird.

* See *ante* p. 85.

impassable. No further enactment of the kind appears until the reign of Henry VIII., in which several laws were made for the altering and repairing roads in various parts of the kingdom. Six acts relating to the highways were passed during the brief reign of Mary, and no fewer than nineteen during that of Elizabeth. Notwithstanding these enactments, the public roads, throughout the kingdom, were everywhere narrow, full of holes, deep ruts, and crossed by water-courses—to such an extent as to be often almost (and not seldom altogether) impassable. This was the case even with the great public highways connecting the larger towns, and with the cross-roads between small country places it was naturally still worse. Nor did any considerable improvement take place until a much later period.*

The ordinary mode of travelling in early days, and down to a much later date than the close of the Tudor era, was on horseback. Coaches are said to have been introduced into England in the reign of Elizabeth, by a Dutchman, but the use of wheeled carriages, at least for occasional purposes, is of much earlier date.† Heavy wagons, for the conveyance of passengers as well as goods between the large towns, were gradually coming into use during the later portion of Queen Elizabeth's reign. But the internal traffic of the kingdom was chiefly conducted by means of pack-horses, as indeed a large proportion of it continued to be down even to the beginning of the 18th century. The travelling merchants of those days journeyed, for the sake of mutual protection, in parties of forty or fifty; the long train of horses in single file, headed by one which had a bell attached to his head-gear, winding slowly along the devious tracks which the roads of those early times generally formed. On a humbler scale, the pedlar, himself on foot, but often attended by a

* A vigorous sketch of the state of travelling in England a century after the Tudor period is given by Macaulay: *History of England*, chap. iii. See also *Pict. Hist. of England*, book vi. chap. iv.

† Stage-coaches for public travelling were not introduced until the middle of the 17th century. The earliest extant notice respecting them dates from 1658. Hired carriages (hackney-coaches) were used in London as early as 1625.

pack-horse, journeying between town and town, and visiting the mansions of the gentry by the way, was a necessary agent in the internal traffic of the country. The periodical fairs, or markets, held in all the great towns, served an important purpose in the transaction of commerce, which was indeed their primary object. Traders from all parts of the kingdom met there, exchanged their various produce, and made their wholesale purchases for the requirements of the intervening period until the fair again came round. The sales of woollen cloths, kerseys, linens, leather, and other commodities, were thus transacted at the great fair of St. Bartholomew, held annually in Smithfield. The sale of horses and cattle, and of butter, cheese, and other articles of farm produce, was similarly conducted.*

AGRICULTURE.—During all the earlier period of our history, and down even to a recent date, England was chiefly an agricultural country. The national wealth was supplied by the labours of the husbandman, but these consisted rather in the pursuit of pasturage than of tillage. Wool was the staple of the kingdom. From the 12th century downwards, the English wool had been increasingly in demand in foreign countries.† The Flemish manufacturers were its principal consumers, but it was largely used in the towns of France also. With the growth of manufacturing industry on the part of the English themselves, the demand for wool continued to increase, and it became more profitable to use land for pasturage than for tillage. The extensive conversion of the soil to the rearing of sheep and cattle attracted the notice of the legislature, and many fruitless efforts were made during the 16th century to arrest its pro-

* A large portion of the commerce of continental countries—especially in the centre and east of Europe, is still conducted in this manner. The great fair of Nijni-Novgorod, in central Russia, is an example. The sports and festivities which attended the fair, and which ultimately became, at least in our own country, its main characteristic, were in the origin adjuncts only to its prime purpose, that of trade.

† In 1279, in a petition to Edward I., the nobles asserted that the wool produced in England, and mostly exported to Flanders, was nearly equal to half the land in value.

gress. The total extent of land under cultivation, tillage and pasturage included, bore at that time but a small proportion to the whole area of the kingdom. Large tracts of country continued, even at a much later period, to be altogether uncultivated and unenclosed.*

Wheat, barley, rye, and oats, constituted in the 16th century the chief crops of the farmer. But wheaten bread was only consumed, as a general rule, by the higher classes of society: the poorer classes ate bread made of barley or rye, and in times of scarcity, beans, pease, and oats, contributed largely to their subsistence. Tare and lentils served to appease the wants of hunger on occasions of more than ordinary scarcity, from failure of harvests or otherwise. Many additions to the objects of the cultivator's skill were made during the 16th century. It was not until the end of Henry VIII.'s reign that any salads, carrots, turnips, or other edible roots, were produced in England. The little of these vegetables that was used was formerly imported from Holland and Flanders.† The use of hops, and the planting of them, was introduced from Flanders about the beginning of the same reign, or the end of the preceding. The cabbage, the pale gooseberry, and according to some, the apricot and the musk-melon, were introduced about the same period. The artichoke was first cultivated in the reign of Henry VIII.: pippins were introduced about 1525: currants, from Zante, in 1555: the cherry about 1540: and several varieties of the plum, from Italy, about 1510. The common walnut (a native of Persia) was introduced in 1562. The attractions of the flower-garden were also increased. The gilliflower, the carnation, and the rose of Providence, were brought in by the Flemings who settled in Norfolk about 1567. The musk-rose and the damask-rose were first grown in England about the same period.‡

* See Macaulay, chap. iii. as to the time of Charles II. In the present day, the total area of cultivated land, arable and meadow land included, is fully equal to five-sixths of the entire kingdom.

† Queen Katherine, when she wanted a salad, was obliged to despatch a messenger to Flanders on purpose. (Hume, chap. xxxiii.)

‡ Many of the ornaments of the English garden had been derived, at

James I. sought to introduce the rearing of silk-worms into England, and mulberries were planted with that view. The culture of the hop became greatly extended during his reign.

MINERALS.—Nothing is more characteristic of the industrial wealth of the English nation in the present day than the vast amount of mineral produce. During the Tudor period, and indeed for long after, the *tin* which the mines of Cornwall supplied was by much the most valuable of English productions in this regard.* The working of copper was almost neglected. A copper mine was worked near Keswick as early as 1250, and Edward III. granted a patent to certain persons for the working of all “mines of gold, silver, and copper.” But the quantity raised was exceedingly small. Acts were passed both under Henry VIII. and Edward VI. to prevent the exportation of brass and copper, “lest there should not be metal enough left in the kingdom fit for making guns and other engines of war.” Soon after the beginning of Queen Elizabeth’s reign, the discovery of a new copper mine in Cumberland so greatly increased the supply that it began to be again sent abroad.†

Iron-works already existed in the southern counties—chiefly Kent, Surrey, and Sussex—but they had not

an earlier date, during the era of the Crusades, from the eastern shores of the Mediterranean. The pilgrims who returned from the Holy Land brought with them the ranunculus, the narcissus, and other bulbs, with several varieties of the rose and other attractive productions of eastern climes.

* Tin-mines had been worked from a period of remote antiquity at various places round the shores of Cornwall—chiefly in the south-western district of the county. In the reign of King John, the mines in the west of England appear to have been principally in the hands of the Jews. The remains of furnaces, called Jews’ houses, have been discovered from time to time, and small blocks of tin, known as *Jews’ tin*, have not unfrequently been found in the mining districts. The name of Marazion, (or Market Jew), a town at the head of Mount’s Bay, is additional evidence of the connection here referred to.

† The copper of Cornwall does not seem to have been worked until the beginning of the 17th century.

prospered greatly, and were regarded unfavourably both by the government and the nation at large. Wood was employed for smelting the ore, and in the reign of Elizabeth there were loud complaints that whole forests were being cut down for the purpose of feeding the furnaces. In 1558, and again in 1580 and 1584, acts were passed to prohibit the erection of new furnaces within a certain distance of the metropolis, with a view to the preservation of the woods from destruction: but the wealds of Kent, Sussex, and Surrey, were exempted from the operation of the two earlier statutes. The manufacture, however, languished, and the smelting of iron ore became gradually transferred to other parts of the kingdom, where the abundance of coal—then coming fast into general use—rendered the use of any other fuel superfluous.*

Coal is first mentioned in the reign of Henry III., in an order for inquisition into trespasses committed in the royal forests, issued in 1245.† Sea-coal is here spoken of, an expression which evidently implies that coal had been brought to London by sea before that date. The use of coals in furnaces and forges, by smiths, brewers, &c., was becoming common in London towards the end of the 13th century. Before the close of the 14th century, an active trade was carried on in the conveyance of coal by sea, from Newcastle-upon-Tyne to London and elsewhere. The citizens on several occasions petitioned against the growing use of this mineral, on account of alleged unhealthiness from the smoke, the dirt, and other annoyances. Laws were enacted to limit its use, which still went on. The employment of coal, however, was long confined to the purposes of the forge. Its use as household fuel was only gradually becoming general in the reign of Elizabeth.‡

* Up to within the last century and a half, Sussex was the chief seat of the iron produce of England. The last furnace, at Ashburnham, was blown out so recently as 1827.

† Pictorial History of England, book iv.—Sea-coal Lane, a well-known thoroughfare in London (between Skinner Street and Farringdon Street) is mentioned by that name in a charter of the year 1253.

‡ James I. early took measures (in 1606) to promote the introduction

FOREIGN COMMERCE.—Prior to the Tudor period, the foreign commerce of England was for the most part confined to the Low Countries. The Netherlanders bought the English commodities—of which *wool* and woollen goods constituted by much the largest items, amounting to nine-tenths of the whole—and either consumed them for their own uses, or distributed them to other parts of the Continent. Hence the mutual dependence of England and the Low Countries on one another, and the great inconvenience and loss sustained by both upon occasions of rupture. This trade was long carried on principally, indeed almost wholly, by foreigners—chiefly the people of the Hanse towns, or Easterlings, so often mentioned in early English history, and many of whom were settled in London and other English ports.

Henry VII. (a peace-loving, and also a money-loving, sovereign) gave great encouragement to trade and manufactures. He formed commercial treaties on a wider scale than any previous ruler of England, and opened a larger field to the commerce of the nation. Denmark, Norway, and Sweden, in the north; France, Brittany, Normandy, Dantzic, Eastland, Friesland, in the west of Europe; Spain, Portugal, and Italy (Pisa, Florence, Venice, &c.), in the south; were thus brought into direct commercial relationship with England. During the reign of his successor, although the navy was for a time neglected, yet the foreign trade of the kingdom continued to flourish, and within the last ten years of Henry VIII.'s reign great additions were made to the naval resources of the kingdom.

A vast accession to the foreign commerce and industrial resources of England took place during the reign of Elizabeth. The field of enterprise had become greatly enlarged by the geographical discoveries of the preceding half cen-

of the Scotch coal into his southern kingdom, "to the end that by its more common use people may leave off burning wood, and felling in the forests in England, which are already much wasted." In 1615, the Newcastle coal-trade employed 400 vessels—200 for the supply of London, and as many more for the rest of England.

tury, and Englishmen were visiting, in pursuit either of trade or of other objects (sometimes of less praiseworthy description), the most distant lands and seas. Trading voyages to Guinea and Brazil had become frequent during the reign of Henry VIII.* Within the same period, the "tall ships" belonging to London, Southampton, and Bristol, traded to Sicily, Candia, and Khio, and sometimes to Cyprus, as well as to Tripoli and Beyrout, on the Syrian coast. Their outward cargoes consisted of woollen cloths, calf-skins, &c.; and they returned home laden with silks, camblets, rhubarb, malmsey, muscadel, and other wines, oils, cotton, wool, Turkey carpets, galls, and Indian spices. One of these voyages up the Mediterranean usually occupied a whole year, and was accounted exceedingly difficult and dangerous.†

The English trade with Russia dates from the reign of Queen Mary, who granted a charter to the Russia Company.‡ Mr. Arthur Jenkinson, acting as agent for this Company, and seeking to extend its commercial operations into Asia, journeyed in the years 1588-90, through Russia, down the Volga to Astrakhan, and thence across the Caspian Sea, and through Persia to Bokhara, which city was the resort of merchants from the most distant parts of Asia.

* In 1530, Captain William Hawkins of Plymouth (father of Sir John Hawkins), made the first trading voyage to Guinea, for elephants' teeth, &c., and thence proceeded to Brazil. Such voyages soon became common.

† Pictorial History of England, book vi. — Foreign vessels as well as English were employed by the merchants engaged in this trade—among them, Candiots, Ragusans, Sicilians, Genoese, Venetian galleasses, with Spanish and Portuguese ships. The foreigners also traded to our shores on their own account. The last of the Venetian argosies that visited this country, a great vessel of 1100 tons, was wrecked on the Needles, off the Isle of Wight, in 1587, and all the crew and passengers, with the exception of seven persons, perished. In 1605, James I. granted a charter of incorporation to the Levant or Turkey Company, which long continued to carry on a lucrative trade with Turkey.

‡ Russia (or Muscovy) had first become known to the English through the voyage of Sir Hugh Willoughby, in 1553, in search of a north-east passage to the Indies. Willoughby himself perished on the coast of Lapland, but Richard Chancellor, who commanded one of the ships belonging to the expedition, entered the White Sea, and, travelling overland to Moscow, had a personal interview with the Czar.

The Newfoundland fishery dates from the reign of Henry VIII: it originated in 1536, and grew rapidly into a source of national wealth. The northern whale-fishery soon followed. The hardy seamen of Biscay were the first to engage in this. The first date of such adventure on the part of the English is 1593, in which year some English ships made a voyage to Cape Breton, to fish for morse and whales: before the close of the century, the ships of the Russia Company were occasionally engaged in the capture of whales in the seas about Spitzbergen.*

The reign of Elizabeth witnessed the origin, on the part of England, of the iniquitous slave-trade, a branch of traffic which continued to disgrace the nation from that period down to within little more than half a century from the present time. Captain (afterwards Sir John) Hawkins commenced this traffic in 1562. Learning that negroes brought a good price in Hispaniola, he fitted out three ships, which he partially filled with English goods, and sailing to the coast of Guinea, obtained a cargo of three hundred human beings. He sold these, with his other ventures, in Hispaniola, and freighting his ships with hides, sugar, ginger, and other like commodities, including some quantity of pearls, returned home in 1563, having made a highly prosperous and profitable voyage.

Antwerp, on the Scheldt, was throughout the 15th and greater

* In 1577, there were (according to Hakluyt) above three hundred vessels engaged in the Newfoundland fishery. Only fifteen of them were English, the greater number belonging to the French, and next after them to the Spaniards and Portuguese. Hakluyt accounts for the small number of English ships that resorted to Newfoundland by the fact of a great many being employed in the Iceland fisheries. The English, however, had the best ships, and gave the law to the rest, protecting them in the bays from pirates and intruders, in acknowledgement of which service it was customary for the other ships to present them with a boat-load of salt, or something of that kind. In the following reign, the Greenland whale-fishery was largely engaged in by the English—at first as an individual venture, but afterwards by the Russia Company, and, for a time, by ships belonging jointly to the Russia and the East India Companies. The earliest mention of whalebone being brought home is in 1617, previous to which date, the blubber alone was the object of desire.
—*Pictorial History of England*, book vii.

part of the 16th century, the great port of the Low Countries, and the most flourishing emporium of European commerce. Its capture and plunder by the Spaniards, under the Duke of Parma, in 1558, gave a shock to the whole commercial system of Europe. The rapid advance of manufacturing industry in our own country dates from this event. Great numbers of the manufacturers and merchants who wrought and dealt in silks, damasks, taffeties, and other wares, settled in England, and taught our countrymen the practice of their skill. Prior to this date, Antwerp had been the chief medium of exchange between Britain and the countries of the continent. The commerce which its traders maintained with Britain in the earlier portion of the reign of Elizabeth is thus described: — “To England, Antwerp sent jewels and precious stones, silver bullion, quicksilver, wrought silks, cloth of gold and silver, gold and silver thread, camblets, grograms, spices, drugs, sugar, cotton, cummin, galls, linen both fine and coarse, serges, demy ostades, tapestry, madder, hops in great quantities, glass, salt-fish, metallic and other merceries of all sorts, to a great value; arms of all kinds, ammunition for war, and household furniture. From England, Antwerp receives vast quantities of fine and coarse draperies, fringes, and other things of that kind, to a great value; the finest wool, excellent saffron, but in small quantities; a great quantity of lead and tin; sheep and rabbit skins without number, and various other sorts of fine peltry and leather; beer, cheese, and other sorts of provisions in great quantities; also Malmsey wines, which the English import from Candia.

“To Scotland, Antwerp sends but little, as that country is chiefly supplied from England and France. Antwerp, however, sends thither some spicery, sugars, and madder, wrought silks, camblets, serges, linen and mercery. And Scotland sends to Antwerp vast quantities of peltry of many kinds, leather, wool, and indifferent cloth, fine large pearls, though not of quite so good a water as the oriental ones.

“To Ireland, Antwerp sends much the same commodities and quantities as to Scotland; and Antwerp takes from Ireland skins and leather of divers sorts, some low-priced cloths, and other gross things of little value.”*

* Guicciardini, quoted in Anderson's *History of Commerce*, vol. ii. (London, 1787.)

CHAPTER XI.

COMMENCEMENT OF ENGLISH COLONISATION.

“WHAT chiefly (says Hume) renders the reign of James memorable, is the commencement of English colonies in America; colonies established on the noblest footing that has been known in any age or nation.”*

The Spaniards, within the half century which followed the discovery of the New world, had established their dominion over nearly every maritime region of tropical America, whether on the islands or the mainland. Brazil, the only considerable exception, had fallen to the share of Portugal. But the adventurers of either nation had happily left unregarded the vast extent of coast stretching along the Atlantic to the northward of Florida. This territory, for the most part temperate in climate, and endowed with sufficient fertility of soil to yield a moderate return to the hand of industry, became during the 17th century the home of great numbers of the English nation, destined in the course of the succeeding century to form a powerful and independent community.

FOUNDATION OF JAMES TOWN, 1606.—The name of Virginia had been bestowed by Queen Elizabeth upon the region discovered by the adventurers whom Sir Walter Raleigh had despatched in search of lands suitable for colonisation upon the other side of the Atlantic. The schemes of Raleigh, like those of Sir Humphrey Gilbert, resulted only in failure. The first party of colonists whom Raleigh sent to Virginia (in 1585), were brought back to England,

* History of England, Appendix to James I.

in the following year, by Sir Francis Drake. The fate of a subsequent body of settlers in the same region was never ascertained.

But the project of settlement in Virginia was never wholly abandoned by the English nation. Some occasional intercourse with the natives of that region was maintained by the merchants both of London and Bristol, who found it profitable to traffic with them in the exchange of beads, knives, combs, and various trinkets, for furs and skins. Raleigh's attainder and sentence annulled the privileges granted by the exclusive patent which he had held, and the unoccupied regions of the west became open to new projectors. In 1606, James I. granted charters to two companies; one, that of the London Adventurers, or South Virginia Company, to whom was given authority to plant settlements on that portion of the American coast situated between the parallel of 34° and 41° : the other, the company of Plymouth Adventurers, who had assigned them a like privilege in respect of the country northward from lat. 41° to 45° . The London Company sent out, in the same year, a body of settlers who founded the settlement of *James Town*, on the north bank of the Powhattan (or, as it was afterwards called, the James River), above 40 miles above its mouth.* The colony thus planted was never abandoned, though once on the point of being so. The settlers were often reduced to great difficulties, notwithstanding the supplies forwarded from England for their use. What served most to contribute to the prosperity of the settlers was the culture of tobacco, which rapidly became an article of consumption in the mother country. In 1610, the London company obtained a second charter, conferring on them additional privileges, and empowering the planters (as the settlers were called) to exercise the rights of self-government, by means of a resident council and other officers.

BERMUDA ISLANDS, 1612.—Sir George Somers and Sir

* The site of James Town was afterwards abandoned, and hardly a vestige of the buildings now remains.

Thomas Gates, two of the captains employed by the London Company, were, in 1609, in the course of an outward voyage to Virginia, wrecked on the little group of islands now known as the Bermudas. This name is derived from Juan Bermudez, a Spanish navigator, who had first visited them in 1522. The English, however, regarded themselves as the discoverers of this attractive group of islands, on which they resided for a period of nine months, and the name of Somers' Islands was hence conferred upon them. A settlement was made on these islands, in 1612, by a company chartered for the purpose by the King.

NEW ENGLAND, 1620.—English colonisation in the West—slow and unsteady in its progress—might have failed to produce any important results, had not other principles and motives than those due to the spirit of commercial enterprise aided its advance. The religious intolerance which drove conscientious Englishmen from their homes, to seek freedom of worship in accordance with the dictates of their conscience, proved the most important means of peopling the vast wilderness of the western world. The “Pilgrim Fathers” landed in 1620 on the shores of New England, and founded the town of *Plymouth*—situated in what afterwards became the state of Massachusetts, 36 miles S.E. of the city of Boston. Plymouth was the earliest in date of the New England settlements, and the nucleus of the various flourishing communities which shortly after grew into existence in that region.

The circumstances under which the settlement of Plymouth was founded are in every way remarkable, and the tale of the “Pilgrim Fathers” is among the most instructive in history. A congregation of English nonconformists, holding its meetings at Scrooby, a village situated in the county of Nottingham (near the borders of York and Lincoln), were the occasion of its origin. The annoyances which those who dissented from the doctrines of the Church experienced, on the part of the ruling powers, shortly after the accession of James I., became so intolerable to the Scrooby congregation that its members determined on self-expatriation. They had heard that in the Low Countries

religious freedom was allowed, and that some of their persecuted countrymen had there found a refuge, and there they accordingly determined to seek a home.

Even this expedient had to be prosecuted by stealth. Under colour of a royal proclamation, forbidding the King's subjects to transport themselves to Virginia without his special license, or upon some other pretence, the embarkation of the Scrooby villagers was obstructed by the authorities. Their first effort to leave their native shores, in 1607, was unsuccessful, many suffering imprisonment in consequence of the attempt. In the following year, embarking at a place on the Humber, between Grimsby and Hull, under circumstances of much difficulty and even danger, some of them succeeded in getting away. These were afterwards joined by such as had from necessity been in the first instance left behind, and the scattered flock was at length collected at Amsterdam.

The exiles found at Amsterdam a London congregation, which had emigrated some twelve or fifteen years before, and also the Gainsborough congregation, former neighbours of their own. They remained, however, a distinct community, and after the lapse of a few months determined to remove to Leyden — then recovered from the devastation which had attended its famous siege of thirty-five years before, and containing a population of 70,000 souls. The Scrooby nonconformists abode at Leyden during twelve years. They "fell to such trades and employments as they best could, and many came unto them from divers parts of England, so as they grew a great congregation." Their actual numbers can only be conjectured, but even when at the largest are not supposed to have counted more than between 200 and 300 adult persons. Their uprightness, diligence, and sobriety, gave them a good name and pecuniary credit with their Dutch neighbours.

But although their industry had improved the outward circumstances of the self-exiled Englishmen, the experience of a few years' residence in the Low Countries decided them against remaining as permanent settlers in a foreign land. They still loved their native country, and were anxious to retain the privilege of shelter under her authority. Various motives combined to direct their eyes towards the regions of the distant west, then, as during the whole of the prior century, the object of regard to enterprising spirits of every nation of Europe. They accordingly entered into negotiations with the Virginia Company of London, for a settlement within part of the extensive tract over which their charter gave them authority, upon the Atlantic shores of the New World. Terms were at length agreed on. Two vessels, sent over to Holland for the purpose, received the exiles with their families, and carried them

—the one to Southampton, the other to London, prior to their final embarkation. These two ships were the "Speedwell" of 60 tons burthen, and the "Mayflower," of 180 tons. The vessels ultimately joined company at Southampton, and put to sea with about 120 passengers. Before they had proceeded far on the voyage, the "Speedwell" proved so unseaworthy that it was thought prudent to return, and both vessels put in at Dartmouth. Repairs having been made, they sailed a second time. But again, when a hundred leagues from land, the master of the smaller vessel represented her as incapable of making the voyage, and they were under the necessity of putting back to Plymouth. There was no other resource than to divide the company, leaving some of their number behind, while the rest pursued their voyage in the larger of the two ships. Accordingly, the "Mayflower" again put to sea with a prosperous wind, the final sailing of the pilgrim ship being on Sept. 6th, 1620.*

Little is recorded of the incidents of the voyage, the earlier part of which was favourably made. As the wanderers approached the American continent, they encountered storms which their overburthened vessel was scarcely able to sustain. Their destination was a point near the Hudson river, within the wide-spread territory over which the jurisdiction of the London Virginia Company extended, by the terms of its patent. At early dawn of the sixty-fourth day of the voyage, they came in sight of the white sand-banks of Cape Cod. In pursuance of their original purpose, they veered to the south, but, by the middle of the day, found themselves, "among perilous shoals and breakers," which caused them to retrace their course.† The "Mayflower" rounded the narrow and curve-shaped peninsula which terminates in Cape Cod, and finally dropped her anchor within the basin which it encloses, at noon, upon a Saturday, near the close of autumn. The exact date was November 11, 1620. A document, drawn up for the purpose, and signed by the pilgrims, declared them to constitute a "civil body politic," for the purpose of

* The colonists, men, women, and children, embarked on board the "Mayflower," were 102 in number. "Concerning very few of them (says the historian of New England) is it known to this day from what English homes they came." Only two amongst them are ascertained to have been members of the Scrooby congregation, which had undergone various changes during the residence of its members at Leyden. Amongst the pilgrims of the "Mayflower" was Miles Standish, a soldier by profession, and apparently induced to join their band either from personal good-will towards some of its members, or from love of adventure, or both motives combined.

† It was afterwards said that the master of the vessel took them purposely astray, influenced by a bribe from the Dutch, who were averse to their settling near the Hudson river. There is, however, no certain evidence of any such want of good faith.

planting a colony in the northern parts of Virginia, in subjection to the supreme authority of the English crown, and competent to frame such laws as were requisite for the government and well-being of the whole. The voyage thus happily terminated is known in American history as that of the "Pilgrim Fathers."

Such was the beginning of the New England Colonies — a commencement truly noble, and affording matter of juster pride to those who were engaged in it than many an enterprise undertaken under more attractive auspices, and aided by the patronage of great names. Throughout its existence as a distinct settlement, the population of Plymouth continued to be a humble community, alike in numbers and in wealth. "When four years had passed, the village consisted only of thirty-two cabins, inhabited by 180 persons. Six years later, it numbered 300 persons, and five years after this, it had added 200 more; and at the end of its life of seventy years, its population, scattered through several towns, had probably not come to exceed eight thousand."*

The colony of MASSACHUSETTS was founded in 1622, under the auspices of "the Dorchester Adventurers," a joint-stock association formed in London for the purpose. The first party of colonists settled, in 1623, at Cape Ann (to the northward of Boston), where the town of Gloucester now stands. A royal charter was afterwards obtained (1629), constituting the Dorchester Company a separate body, under the name of "the Governor and Company of Massachusetts Bay, in New England." In 1630 Charlestown (a present suburb of Boston) was made the capital of the Massachusetts Colony, and the names of Boston, Dorchester, and Watertown, were assigned to the localities which still bear them. A portion of the Charlestown people subsequently removed to Boston, on account of the ample supply of water found on the peninsula which forms its site, and to the deficiency of which at Charlestown an epidemic sickness was ascribed.

* Palfrey: History of New England (London: 1859).

The colony of CONNECTICUT was planted in 1635 — in the first instance by settlers who migrated to the banks of the Connecticut river, from the Massachusetts settlement. RHODE ISLAND became similarly the seat of a distinct settlement in 1636. The town of Providence was founded on a tract of ground purchased from the Indians by Roger Williams, who had been banished from the Massachusetts colony, the settlers in which were but too ready to put in practice, towards those which differed from them in opinion, the same species of tyranny as that from which they had themselves suffered in their native country.

A charter of incorporation was granted to the Rhode Island settlers in 1643, under the designation of “the Incorporation of Providence Plantations in Narragansett Bay.”

Emigration from the mother-country to the New England Colonies ceased with the meeting of the Long Parliament, in 1640. It had begun in 1620, but did not become considerable until ten years later, when the Massachusetts settlement had become definitely planted. Ten years later it ceased: nor was the stream of emigration thither renewed, to any considerable amount, for nearly two centuries. By 1640, it is estimated that about 21,000 Englishmen (or 4000 families, in all), had arrived in New England. During the succeeding century and a quarter, more people left the colony to return to England than went from England thither.* But the settlers grew in numbers, notwithstanding, and continued, year by year, to subdue larger portions of the American wilderness to their use.

In 1643, the four principal New England settlements — Massachusetts, Plymouth, Connecticut, and Newhaven — formed themselves into a political confederacy, entitled “the United Colonies of New England.” Almost at the same time, the English Parliament instituted a commission (consisting of six lords and twelve commoners, with the Lord

* Palfrey: History of New England.

Admiral, the Earl of Warwick, at their head), for the government of the American colonies. This commission was practically inoperative, for the colonists had already taken the management of their local interests into their own hands. In 1662, a second charter was granted by Charles II. to "the English Colony of Rhode Island and Providence Plantations, in New England."

MARYLAND, 1634.—While the Puritan settlers were subduing to their use the wilderness of New England, the followers of an older, but proscribed faith, had found for themselves a home upon a portion of the American coast lying only a few degrees to the southward, and within the original limits of the Virginia Company's extensive grant. A part of this tract of country was in 1632 granted by Charles I. to Lord Baltimore, the name of Maryland being bestowed upon it in honour of the Queen — Henrietta Maria. Lord Baltimore was a Roman Catholic, and within two years of the date of the grant a body of settlers of that faith were established on the banks of the Chesapeake river. The New England settlers manifested some hostility towards their Roman Catholic neighbours (between whom and themselves, however, a wide extent of country intervened), but the Catholic colony continued to flourish, and remained a place of refuge for such members of the older church as were driven from England by the severity of the penal laws directed against their religion.

CAROLINA, 1663.—Carolina was first permanently settled by the English in 1663. Charles II., in that year, made a grant of the province to Lord Clarendon and others.*

* Carolina derives its name from Charles IX. of France, during whose reign a party of Huguenot settlers, under Jean Ribault, had visited this tract of coast, giving the name of Port Royal to the island on which they designed to plant their colony. This was in 1562. The French settlers were shortly after attacked and driven out by the Spaniards, who, however, made no permanent settlement in this region: the country remained unoccupied for nearly a century, until the date of the English settlement.

Beaufort, on Port Royal Island, was the first settlement made in the southern portion of the province, in 1670. North and South Carolina were recognised as distinct colonies in 1719.

NEW YORK, 1664. — The river Hudson had been discovered by the English navigator, Henry Hudson, in 1609, in the course of a voyage undertaken in the service of the Dutch.* A settlement was shortly after formed upon its banks by that nation. The Dutch settlers first erected Fort Orange, on the present site of Albany, in 1613,† and in the following year erected some fortifications, to which they gave the name of New Amsterdam, at the southern point of the island of Manhattan, between the mouth of the river Hudson and Long Island Sound. The site of New Amsterdam is now included within the wide area of New York, which name, however, was not conferred until long afterwards. The adjacent territory was then known by the name of the New Netherlands, which it retained until the conquest of the Dutch settlements by the British in 1664. The Dutch regained possession of New Amsterdam in 1673, but it was restored to the English in the following year, and remained in the hands of the English nation down to the date of American independence.

NEW JERSEY, 1664. — New Jersey, a small but productive range of coast lying between the Hudson and Delaware rivers, was first settled by the Danes and Swedes, in 1624. The Dutch (already established on the Hudson) took forcible possession of it in 1655, and retained it until 1664,

Raleigh's abortive efforts at colonisation, in 1585 and the succeeding years, were directed to a region (Albemarle Sound) within the limits of what is *now* known as North Carolina, but which fell within the Virginia of that period.

* The same navigator, in his latest voyage, 1610, discovered the extensive bay which bears his name, and within the waters of which he perished, abandoned by his mutinous crew.

† Albany is, next to James Town, the oldest settlement in the United States.

when it was conquered, with the Dutch settlements adjoining, by the English.

DELAWARE was first settled by the Swedes, in 1638, in pursuance of a plan of colonisation which had been favoured by Gustavus Adolphus, and six years after the death of that monarch on the field of Lutzen. The territory was designated New Sweden. The Swedish settlers were however compelled to yield to the Dutch, and subsequently the territory passed, with the adjoining Dutch settlements, into the hands of the English. Delaware was granted, in 1682, along with Pennsylvania, to William Penn.

PENNSYLVANIA, 1681.—The Swedes had made some settlements within this tract of country, in 1638. These fell successively into the hands, first, of the Dutch, and afterwards, of the English planters. In 1681, William Penn, the celebrated Quaker, obtained a grant from Charles II., in virtue of which he planted a colony there, and in the following year founded the city of Philadelphia, upon a tract of ground purchased for the purpose from the Indians.

GEORGIA, 1732.—This was the latest of the English settlements upon the seaboard of what has since been known as the United States. Georgia was first planted in 1732, during the reign of George II.

The English colonies on the Atlantic seaboard, then thirteen in number, and extending from the border of New Brunswick southward to Florida, asserted their independence in 1776, and, after a struggle of several years' duration, obtained in 1783 a recognition on the part of Britain of their existence as an independent nation, under the name of the United States of North America. The names of the thirteen states, enumerated in geographical succession, from north to south, were:—New Hampshire, Massachusetts, Rhode Island, Connecticut, New York,

New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia.*

THE WEST INDIES.—The first efforts at colonisation, on the part of the English nation, in the Islands of the Western Indies, date from the early years of the reign of James I. Hawkins, Drake, and other English sailors, had during the preceding reign attacked and plundered the Spanish settlements in that region, but had made no attempt at permanent conquest. The island of Barbadoes, now the most popular and flourishing amongst the Lesser Antilles, was the earliest of the English acquisitions in that quarter.

An English merchant-ship, homeward-bound from the coast of Guinea,† had been accidentally led to visit Barbadoes in 1605, and the master of the vessel took possession of the island in the name of the King of England. No attempt at settlement was made at the time. Nearly twenty years later (1624) a party of English adventurers settled on the island, under the sanction of a patent granted by the King to Lord Leigh, afterwards Earl of Marlborough, and Bridge Town was founded. In 1627, the rights of the Earl of Marlborough were purchased by the Earl of Carlisle, who obtained from King Charles a charter, granting him the property of the island. Down to the year 1641 the only produce of Barbadoes consisted of tobacco (of indifferent quality), with a little cotton and ginger, but the sugar-cane was introduced from Brazil in that year, and the plantations

* Maine, the northernmost state of the Union, was originally a part of Massachusetts, though separated from it by the intervening territory of New Hampshire. The possession of Vermont, before the war of independence, was disputed between the provinces of New Hampshire and New York.

† This, like many other occurrences in the history of early navigation, illustrates an important condition of physical geography. Both winds and ocean-currents, within the tropics, have a westwardly direction, and vessels navigating the Atlantic within low latitudes are hence impelled to a course which carries them towards the western side of that ocean. It was thus that Cabral, in 1500, fell in with the coast of Brazil in the course of an outward voyage from Portugal, round the Cape of Good Hope, to India. Ships engaged in the Guinea trade frequently made the West India Islands in the course of their homeward voyage.

shortly after became greatly extended. The proprietary government was surrendered to the crown, by purchase, in 1662. During the protectorate, the Barbadoes planters remained faithful to the royal cause, but were at length compelled to surrender to a parliamentary force, under Sir George Ayscue, in 1652. The island has never been captured by a force belonging to any other nation, but has remained permanently in English possession.*

The islands of ST. CHRISTOPHER (in 1623), NEVIS (in 1628), ANTIGUA (in 1632), and MONTSERRAT (1632), with some of the adjacent islands, were all colonised by the English within a period of ten years—the first named while James I. was on the English throne, the three others during the reign of his successor. The plantation of these islands was due mainly to the enterprise of Sir Thomas Warner, a merchant of London. Two years after St. Christopher had been first planted by the English, some French settlers went there. The French and English agreed to divide the island between them. The French settlers subsequently expelled the English, and maintained possession of the island for a time. The English portion was restored in 1668. In the following year, the English were again driven out, but in 1690 the island was captured by a British force. At the treaty of Ryswick (1697) the former French portion was restored to that nation, but the treaty of Utrecht (1713) provided for the cession of the whole island to Britain. Nevis has followed, for the most part, the fate of St. Christopher.

Antigua, first planted (by settlers from St. Christopher) in 1632, was in 1663 granted by Charles II. to Lord Willoughby. It was attacked by the French in 1667, and remained for a few months in the hands of that nation, but was restored to England in 1668, and has since remained in undisputed possession of Britain. The neighbouring island

* After the battle of Bothwell Bridge (1679) three hundred of the unfortunate Covenanters were shipped off to Barbadoes, and perished on the voyage.

of Barbuda was colonised by some settlers from St. Christopher, in 1628. Montserrat, which had been similarly planted, was captured by the French in 1664, but restored in 1667, at the peace of Breda.

The BAHAMA ISLANDS were occupied by the English at about the same period as the islands above mentioned. New Providence, one of the group, was colonised in 1629. The Spaniards, in 1641, drove away the English settlers, but they returned in 1666. In 1703, the English were again expelled, by the French and Spaniards unitedly, but they subsequently regained possession, and remained masters of this and others of the islands until 1781. The Spaniards then took forcible possession of these islands, which, however, were restored to England in 1783, and have since remained in the undisturbed possession of Britain.

JAMAICA (1655).—The island of Jamaica—third in size amongst the West India Islands—had been discovered by Columbus in 1494, in the course of his second voyage.* Eight years later, during the course of his fourth and last expedition, Columbus had suffered shipwreck on its shores. The Spaniards colonised the island in the following year (1503), and it remained a Spanish possession for the next half century. In 1655, Cromwell fitted out an expedition against the Spanish settlements in the West Indies (conjointly with that despatched, under Blake, for the purpose of putting down the piracies committed by the corsairs of Barbary in the Mediterranean), under the command of Penn and Venables—the former in charge of the fleet, the latter of the land-forces which it carried. The town of San Domingo, on the island of Hispaniola, was the point of attack; but the expedition failed in this, its main purpose, under circumstances somewhat discreditable to its leaders. To make amends for this want of success, the English commanders sailed thence to Jamaica, which surrendered to

* Columbus sailed from Spain, upon this occasion, on September 25, 1493. Jamaica was first seen in the month of May following, as the fleet of the Admiral steered to the southward of Cuba.

them, almost without a blow, and has ever since remained a portion of the British dominions.*

GUIANA, under which name was comprehended, in older geography, the whole vast area stretching from the Orinoco valley to the lower course of the Amazon, was the region towards which the golden dreams of Raleigh were directed, during the later portion of his career. The Spaniards had early formed settlements within that portion of the territory through which the Orinoco has its course. But the first settlers in what is now commonly known as Guiana were the Dutch, who formed plantations on the banks of the Pomaroon river, and also at the mouth of the Essequibo, as early as 1580. From the latter locality they were driven away by Spaniards and hostile Indians, but continued to maintain themselves at some points higher up the stream, as well as on the Pomaroon.

Adventurers of the English nation made several attempts at planting a colony in Guiana in 1604 and succeeding years, but without success. These attempts were renewed between 1626 and 1630, in the direction of the Surinam river, then called the Coma—that is, further to the eastward; the settlers rebuilding the Indian village of Paramaribo, which had been abandoned and destroyed by the natives. Owing, however, in part to hostile attacks from the natives, and in part to its unhealthiness, the settlement was ultimately abandoned. The French afterwards settled at Paramaribo, but relinquished it for like reasons, proceeding thence to Cayenne, and planting the settlement now known as French Guiana.

In 1652, a body of English again arrived at Paramaribo, and succeeded in establishing a settlement there. The colony prospered, and in 1662 was granted by Charles II.

* The Protector did not appreciate the importance of the acquisition which his officers had made: at any rate, he did not regard it as any compensation for the failure to execute his orders respecting San Domingo, and threw both Penn and Venables into the Tower on their return. Admiral Penn was the father of William Penn, the founder of Pennsylvania.

to Lord Willoughby, at that time governor of Barbadoes, who changed the name of Coma, by which the river was known to the Indians, to Surreyham, in honour of the Earl of Surrey. This became converted into Surinam.* The crown afterwards bought the colony from Lord Willoughby's heirs, and in 1669 exchanged it with the Dutch government for their colony of New Amsterdam, on the Hudson river (the present New York).

The Dutch, meanwhile, continued to maintain their plantations on the Essequibo, at the confluence of the Cuyuni and Massaroony with that stream. In 1613, this colony had made considerable progress, and eight years later, when the first Dutch West India Company was established, was reported to be in a flourishing condition. The culture of the land on the banks of the Berbice river was commenced in 1626. Fort Nassau, 50 miles up the river, was the capital of the Dutch colony there; near Fort Nassau was New Amsterdam. The settlements on the river Demerara (intermediate between the Berbice and the Essequibo) were a dependency on Essequibo down to 1774, when Stabroek—the present Georgetown—was made the seat of government for the united colonies of Essequibo, Demerara, and Berbice.

The settlements on these rivers remained in possession of the Dutch until 1781, when they were captured by a British squadron. They passed to the French in the succeeding year, and in 1783 were restored to the Dutch nation. A British expedition despatched from Barbadoes again took possession of them in 1796. They remained subject to British dominion until 1802, when they were again returned to the Dutch nation, to be a third time, and finally, brought under the government of Britain in the following year. Since 1803, these portions of Guiana, as far eastward as the Corentyn river, have remained under the British crown.

* A happy conversion, and one of which the euphony makes partial amends for the bad taste shown in the substitution of any name, whatever its origin, for that in native use.

SETTLEMENTS IN THE EAST.

In the latter part of the 16th century, the maritime trade with the East was almost exclusively in the hands of the Portuguese. The route to India by way of the Cape of Good Hope had been discovered by that nation towards the close of the preceding century, and the trade between western Europe and the countries bordering on the eastern seas had since continued to flow in that channel. During the later years of Queen Elizabeth's reign, the English merchants sought earnestly the means of entering upon this branch of trade. Drake had visited the East Indies in the course of his famous voyage of circumnavigation (1577-80), and had touched at the Moluccas, making some stay at the little island of Ternate, and afterwards calling at Java. In 1583, the Turkey Company, then recently established, despatched Newbury and Fitch on an overland journey to the East (by way of Syria, Bagdad, the Persian Gulf, and the island of Ormuz), in order to obtain information respecting the desired object, and the feasibility of establishing depôts of commerce. These travellers—or rather one of them, for Newbury died in India—visited Agra, Bengal, Pegu, Ceylon, and Cochin, returning home by Goa, Ormuz, and Aleppo.

FIRST VOYAGE TO THE INDIES, 1591.—This overland journey was soon followed by a maritime expedition. In 1591, a fleet of three ships, one of them under the command of Captain (afterwards Sir James) Lancaster, sailed from England for the East Indies—the first expedition of the kind undertaken by the English nation. The ship which Lancaster commanded reached its destination; and, visiting Malacca and Ceylon, obtained a cargo of pepper and other spices. On the homeward voyage, after rounding the Cape of Good Hope and obtaining some needful supplies at St. Helena, Lancaster sailed across the Atlantic to the West Indies. He encountered many storms in that region, and

was ultimately (after several disasters and delays) abandoned, with part of his crew, on the desert island of Mona, situated midway between Hispaniola and Porto Rico. He owed his release thence to a French vessel, and at length reached home, after an absence of about three years. No other profit than that which comes under the head of experience was gained by this voyage, and a second adventure of the like kind, made by the London merchants in 1596, proved still more unfortunate. But a more prosperous era was at hand.

FORMATION OF EAST INDIA COMPANY, 1600. — Upon the last day of the 16th century (December 31, 1600), a charter was granted by the Queen to a body of merchants, under the title of "The Governor and Company of the Merchants of London trading into the East Indies," giving them exclusive privileges of trade to the East for a term of fifteen years.* The newly-established Company lost no time in commencing operations. Early in 1601 a fleet of four ships — the largest of 600 tons burden, and the whole carrying together four hundred and eighty men, sailed from England, bound for the Eastern seas. Lancaster was made admiral of the fleet, and John Davis, known as a skilful navigator, was its chief pilot.† Lancaster visited Acheen, on the island of Sumatra, and Bantam, in Java, and succeeded in opening commercial relations at both places, establishing a factory at each. He captured a Portuguese vessel which afforded a rich booty, and succeeded in bringing home to England two of his vessels laden with valuable cargoes, composed of pepper, cloves, cinnamon, and various Indian goods. The length of time which the voyage had occupied (nearly two years and a half), together with subsequent delays in the disposal of its produce, prevented the reaping any great profit from the

* The Dutch had entered into the India trade in 1595, and were already carrying it on with great success. The Dutch East India Company was formed in 1602.

† Davis had made three voyages, in 1585 and the two succeeding years, in search of the North-West passage to India. His name is commemorated in the strait which leads into Baffin's Bay.

adventure. Lancaster, however, was knighted after his return, in reward for his services. In 1604, another and similar adventure was made under the command of Sir Henry Middleton, who brought home three of his four vessels, laden with the produce of the East. Middleton's voyage occupied upwards of two years. Neither these adventures, nor several of those by which they were immediately succeeded, yielded any considerable profit to the promoters, but a single ship, commanded by Captain David Middleton, in 1611, brought home so valuable a cargo of nutmegs and mace, as to produce a dividend of above two hundred per cent.*

Meanwhile, a new charter, extending the term for which their privileges had been originally granted (but reserving to the King a right of dissolution, upon three years' notice) had been granted to the Company, in 1609. The first ventures under the new charter proved unfortunate, but several highly profitable voyages were made during the years 1610-14. In 1616, authority was obtained from the Great Mogul for the Company to establish factories at

* It was not until the later half of the 17th century that the English trade in tea originated. The first mention of tea on the part of European writers is made by the Jesuit missionaries, who visited China and Japan shortly before the middle of the 16th century. The Dutch East India Company began to import tea into Europe early in the 17th century, and the Dutch traders were the chief medium for the supply of the limited quantity required for consumption by the nations of Europe during the chief part of that period. The use of tea was only just beginning to be known in England at the time of the Restoration. In 1664, the East India Company procured, with some difficulty (and at a cost of 40s. per pound), a quantity scarcely exceeding a couple of pounds, as a rare present to King Charles II.; four years later, they had to pay at the rate of 50s. a pound for a further quantity, destined to a similar use. Their own first importation was in 1669, when they received two canisters from Bantam, in Java. After this date, their importations gradually increased. Their purchases, however, were still, for the most part, made at second-hand in Madras and Surat, they having only once gone for it direct to the port of Amoy, in China, until, in 1678, they brought home 4,173 pounds—a quantity which glutted the market for some years. It was not, in fact, until after the Revolution that the use of a beverage now held as indispensable by all classes began to grow general in England. At the present time, the annual importation of tea into Britain exceeds 70,000,000 pounds, and the cargo of a single ship sometimes exceeds a thousand tons, or upwards of 2,000,000 lbs.

Surat, Ahmedabad, Cambay, and Gogo—all on the western side of India, with the privilege of introducing their merchandise at a fixed rate of duty. Two years later, like privileges were obtained from the Emperor of Japan, and a factory was established at Firando.

It had already, ere this, become necessary for the English traders to adopt measures of protection against the Portuguese and the Dutch, both of which nations looked on them with jealousy, as intruders on a branch of traffic which they would gladly have secured to themselves. A service which the commander of an English expedition was enabled in 1614 to render the Mogul, in repelling an attack made by the Portuguese, with whom that sovereign was then on terms of hostility, tended materially to advance the interest of the English traders. Sir Thomas Roe, residing during the years 1615–19 at the court of the Mogul, as agent or ambassador for the East India Company, obtained several important privileges for his countrymen. The Company, by this time, possessed factories at numerous places in the East, amongst them Surat, Agra, Ajmere, and Burhampore, in the Mogul's own dominions; at Masulipatam on the Coromandel coast, and at Calicut on the opposite side of the Indian peninsula; at Acheen and other places, in Sumatra; at Bantam, Jacatra (now Batavia*) and Japara, in Java; at Benjarmassin, on the island of Borneo; Patan, in Malacca; at Banda, in the islands of that name; Macassar, in Celebes; at Siam; and at Firando,† in Japan.

The disputes between the English and Dutch traders in the eastern seas continued, and the home governments of the respective nations made fruitless endeavours to compose their differences. The Dutch traders sought to maintain a monopoly of the spice trade, and especially of the supply of nutmegs and cloves, which were derived exclusively from the Banda Islands. In 1619 a treaty was concluded at

* Batavia received its name from the Dutch, in 1619.

† The island of Firando lies off the N.W. coast of Kiu-siu, one of the larger members of the Japanese group.

London, in virtue of which the English and Dutch were to share in certain definite proportions in the trade of Java and the Moluccas ; but in the following year the governor of the Dutch possessions forcibly expelled the English from the islands of Lantore and Pulo Roon (two of those which compose the Banda group), and the massacre of a few English resident on Amboyna, in 1623, under circumstances of atrocious cruelty, awakened on the part of the English nation a feeling of animosity against the Dutch which was of lengthened continuance. The hostilities between the rival traders operated prejudicially to the interests of the English Company. In 1622, the English, in cooperation with the Shah of Persia, had succeeded in expelling the Portuguese from the island of Ormuz,* at the entrance of the Persian Gulf, and had obtained, in reward for their services, some considerable privileges in that direction. Factories were established at Gombroon, and also at Bussorah, or Basra. But at the close of the reign of James I. the affairs of the company were in anything but a prosperous condition.

In 1641, while their trade was thus languishing, the English Company obtained one of their most important possessions — Madras, on the Coromandel coast, where they shortly built Fort St. George. In 1654, this was made the seat of a Presidency — the first in order of date of the English Presidencies in India. The exclusive privileges of the Company were virtually disregarded during several years of Cromwell's administration, and private adventurers, unhindered, chartered ships to the eastern seas ; but the trade still languished, and it was not until the grant, in 1657,

* While in the hands of the Portuguese, Ormuz had been the emporium for the wealth of India. Its condition at this period is referred to by Milton (*Paradise Lost*, book ii.)

“High on a throne of royal state, which far
Outshone the wealth of Ormuz or of Ind.”

William Baffin, the celebrated English pilot, and discoverer of the bay which bears his name, was killed at the siege of Ormuz. The island is now a barren rock, and the site formerly occupied by the town which it contained exhibits merely a mass of scattered ruins.

of a new charter to the Company that it began really to flourish. The Company relinquished their inland establishments (at Agra and elsewhere), and also those at Mocha, on the Red Sea, and Bussorah, at the head of the Persian Gulf. In 1658, the factories on the western side of India were all made subordinate to Surat, and those on the Coromandel coast and the Bay of Bengal were placed under Fort St. George, or Madras.

The island of St. Helena, which had been frequented as a place of call by homeward-bound ships since its discovery by Juan de Nova, a Portuguese navigator, in 1504, and which had been made the seat of a temporary Dutch settlement, was first taken possession of by the East India Company in 1651. The Dutch afterwards retook it, but in 1672 it was regained by the English, and was finally granted to the Company by charter in the succeeding year.

BOMBAY, 1668.—The island of Bombay (together with the fortress of Tangier, on the coast of Morocco) had been ceded to Charles II. in 1662, as part of the dowry of his Portuguese bride, Catherine of Braganza. But the local authorities evaded the transfer, and Bombay was not actually taken into English possession until 1668, when Charles granted it to the East Indian Company, on payment of a small annual rental. The Portuguese, who for some time retained possession of the adjacent islands of Salsette and Karanja, annoyed the English settlers on Bombay by frequent acts of hostility. But the trade of Bombay continued to increase, notwithstanding, and in 1687 it was raised by the Company to the rank of a Regency, and made supreme over all their establishments in India.

BENGAL, which ultimately became the chief seat of the Company's power in India, and which gives its name to the head Presidency, was that in which the English traders latest acquired a settlement. Some commercial privileges in that province were first obtained by the English factors

in 1652, through the influence of some surgeons belonging to the English nation, who had rendered important services, in the exercise of their profession, at the court of the Mogul. In 1676, the English established a factory at the town of Hooghly (on the river of that name), which had been founded by the Portuguese above a century and a quarter previously, and of which that people had been the possessors during nearly a hundred years. Hooghly was the first place in which the English acquired a footing in this part of India. In 1687, owing to disagreements with the officers of Aurungzebe, the Mogul emperor, they were forced to abandon the settlement for a brief period, of only a few months duration. The English retained subsequent possession of the town until 1756, when, together with Calcutta and the Company's other possessions in the province, it was captured by Suraja Dowlah, the soubahdar of Bengal.* Clive recaptured both Calcutta and Hooghly early in the following year.

The site of Calcutta—then including several native villages, one of which bore the name of Kallighattee (whence the word Calcutta is derived)—was granted to the English traders in 1698, in return for a present made to the Mogul sovereign. A factory had already been established, eight years previously, at the village of Chuttanuttee, immediately adjacent to Kallighattee, and comprehended, like it, within this wide-spread circuit of the modern city.† The Company proceeded to fortify their new settlements, and erected Fort William, on the left bank of the Hooghly—the name being given in compliment to the reigning sovereign of England. The settlements in Bengal were subordinate to Madras until 1707, when Calcutta was made the seat of a separate Presidency. It was not endowed with superior rank over

* This was the era of the "Black Hole" tragedy. Hooghly had been taken from the Portuguese by the forces of Shah Jehan, after an obstinate resistance, in 1632. It thence became the royal port of Bengal.

† It is said that the attention of Mr. Job Charnock, the agent of the Company, had been drawn to the spot from the welcome shade which a large tree had afforded to himself and his party, as they sojourned there for a while on their way down the river.

the other Presidencies until 1773, when Warren Hastings was appointed the first governor-general of India. From that time downwards, the Presidencies of Madras and Bombay have been subordinate to Bengal.

It had been as traders only that the English first went to the East, and their sole ambition had been to acquire the right of establishing factories in certain localities, for the purpose of carrying on their commerce. No vision of political power, however humble — still less any dream of sovereignty over the splendid empire then in existence, and since become a portion of the British dominions — dazzled the views of the founders of the “English Company of merchants trading to the Eastern Seas.” India was then a great and (at least to external appearance) a powerful empire, under the sovereign rule of the Great Mogul, who held his court at Delhi. When the English Company was first established the reigning Emperor of India was Akbar, who died in 1605, and was succeeded by Jehanghir, who reigned till 1627. The latter monarch was succeeded by Shah Jehan, whose prosperous reign terminated in 1666. Aurungzebe, the successor of Shah Jehan, reigned with glory until his death, in 1707.

The authority of the Indian sovereigns, however, was comparatively weak in those provinces which were distant from the central seat of power. The vastness of the empire was a source of weakness to it. The various extensive provinces of which it was composed were ruled by viceroys (under the various titles of Soubahdar, Nizam, Nabob,* or Vizier), and these delegates were often virtually independent of the central authority. The vices of despotism, accompanied by effeminate indulgence in the worst excesses, were multiplied in a thousand forms throughout the empire. Even during the reign of Aurungzebe, seemingly so prosperous, decay had already made considerable progress, and after his death it proceeded at a speedier rate.

The employment of military force was in the first instance forced upon the English traders in India by the necessities of self-protection. A few soldiers, engaged as a garrison for each of their principal factories, long sufficed for the wants of the Company in this regard. It was not until the first half of the 18th century drew towards its close, that the English East India Company was anything more than a trading corporation. “Its territory consisted of a few square miles, for which rent was paid to the native governments.

* Properly *Nawab*. The term nabob became subsequently applied to Anglo-Indian residents in the East, who had become possessed of wealth.

Its troops were scarcely numerous enough to man the batteries of three or four ill-constructed forts, which had been erected for the protection of the warehouses." * The jealousies of a rival nation—the French — hastened the position of hostility which the English were ultimately driven to assume. The French had first opened a trade with India about the middle of the 17th century, and Pondicherry had been established as a French settlement in 1687. The contest between the French and English for power in India commenced about sixty years later, when, on the breaking out of war between the two countries, in 1746, a French fleet sailed from Mauritius for the capture of Madras. The province of the Carnatic thus became the theatre of the first great struggle for British power in the East, and it was there that the genius of Clive—then holding the place of a writer in the Company's factory at Fort St. David, in the neighbourhood of Madras — was first displayed. Clive's earliest exploits were the capture, and subsequent defence, of Arcot (1751). Bengal shortly became the theatre of active warfare. The nabob of that province had dispossessed the English of Hooghly and Calcutta, and committed to the "Black Hole" the unfortunate prisoners who fell into his hands. This was in 1756. The battle of Plassey, fought by Clive in the summer of the following year (June 20, 1757), was the first great step towards the acquisition of British power throughout the vast continent of India.

* Macaulay: Essay on Lord Clive.

CHAPTER XII.

BATTLE-FIELDS OF THE CIVIL WAR (1642—1651).

THE period of English history which comprehends the years 1642—1651 is one that requires the Map to be constantly spread before the student, if he would follow correctly the narrative of events. The contest between the King and the Parliament—the most important and memorable struggle which belongs to the annals of England—found its final issue in an appeal to arms, and nearly every part of the island became, in the course of the great civil war, the scene of active conflict, either on the open field of battle, or in connection with the numerous towns and fortified strongholds which were attacked by the forces of a besieger.

The following list includes the more important battles and skirmishes in the open field which belong to the period now under consideration:—

Edge Hill . . .	1642, Oct. 23	Winceby (Horn-castle) . . .	1643, Oct. 11
Brentford . . .	„ Nov. 12	Alton . . .	„ Dec. 1
Tadcaster . . .	„ Dec.	Nantwich . . .	1644, Jan. 25
Bradock Down . . .	1643, Jan.	Alresford . . .	„ March 29
Hopton Heath . . .	„ March	Selby . . .	„ April 11
Grantham . . .	„ May 13	Cropredy Bridge . . .	„ June 29
Stratton . . .	„ May 16	Marston Moor . . .	„ July 2
Wakefield . . .	„ May 21	Newbury (2nd) . . .	„ Oct. 27
Chalgrove . . .	„ June 18	Islip Bridge . . .	1645, April 24
Atherton Moor . . .	„ June 30	Naseby . . .	„ June 14
Lansdown . . .	„ July 5	Langport . . .	„ July 10
Roundway Down . . .	„ July 13	Rowton Heath . . .	„ Sept. 24
Gainsborough . . .	„ July 31	Sherburn . . .	„ Oct.
Newbury (1st) . . .	„ Sept. 20		

Torrington . 1646, Feb. 19	Kingston . 1648, July 5
Stow . . „ March 22	Preston . . „ Aug. 17
St. Fagans . 1648, May 8	Dunbar . 1650, Sept. 3
Maidstone . „ June 1	Worcester . 1651, Sept. 3

In the brief notices which follow, the chronological sequence is in a few instances departed from, in order to make some approach to harmony in the topographical arrangement, and thereby avoid the inconvenience involved in the rapid transition from one part of the Map to another.

EDGEHILL — The Edge Hills, which give their name to the first conflict of any importance that belongs to this unhappy period, are a rising ground situated on the border line between the counties of Oxford and Warwick, lying along the south-eastern edge of the latter.* The range of high ground of which they form part exhibits a gentle and undulating slope, rising with gradual ascent above the valley of the Warwickshire Avon, and forming a watershed between the affluents of that river and the streams that flow in an eastwardly direction towards the basin of the Cherwell. Their extreme elevation above the sea is less than nine hundred feet. The plain at their western base bore formerly the name of the Vale of the Red Horse: it was here that the battle was chiefly fought.

The King had raised his standard at Nottingham, on August 25, and, after some delay, had marched westward towards Stafford and Shrewsbury. Leaving the latter place on October 20, he began to advance towards the metropolis. The Earl of Essex, who commanded the army of the Parliament (stationed in the neighbourhood of Northampton at the time that the royal standard was first raised), after securing the towns of Coventry and Warwick, had taken possession of the city of Worcester, where he remained inactive for three weeks. When the King began to move from Shrewsbury, he was in advance of Essex's army, which however followed closely on his rear, and on the evening of October 22, as the

* See *ante*, p. 31.

Royalists halted at Edgehill, the Parliamentary army entered the little town of Kineton, in Warwickshire, only three miles distant. On the following day (Sunday, October 23) the battle was fought, the contest commencing about 2 o'clock in the afternoon.

The Parliamentary army occupied the plain at the foot of the hills, then known as the Vale of the Red Horse. The Royalists occupied the rising ground above. The King was on the field in person. The conflict was indecisive in result, but the Parliamentarians remained in possession of the field of battle. The Royalists rested during the ensuing night on the high grounds above, but commenced a rapid retreat on the following morning.

BRENTFORD, MIDDLESEX.—A skirmish in the neighbourhood of Brentford occurred during the progress of negotiations for an accommodation between the opposing parties, about three weeks after the date of the battle of Edgehill.

Brentford, a well-known market town, is situated on the north bank of the river Thames, on the line of the great western road from the metropolis, and at the point where the little stream of the Brent joins the Thames. It is from its position in reference to the former stream that the name of the town, which is of early origin, is derived.* Acton is between two and three miles to the north-eastward of Brentford.

While the King himself, after the fight at Edgehill, made a brief stay at Oxford, his army, under Prince Rupert, advanced towards London. The citizens, alarmed at his near approach, dug trenches and threw up ramparts round the metropolis. The Parliamentary leader, Essex, at length reached the neighbourhood of the capital, and quartered his army about Acton. While the negotiations between the opposing parties were going on, an advanced detachment of the Royal army, headed by Prince Rupert, and followed by the main body of the Royal forces, under the King in person, attacked unexpectedly, and under cover of a dense November fog, a detachment of the Parliamentary forces stationed at Brentford. The troops of the Parliament — a regiment commanded by Colonel Hollis — made so stout a resistance as to give time for other detachments of their

* There was, however, a bridge over the Brent as early as the reign of Edward I., who granted a toll for its support. A battle was fought at Brentford in 1016, when the Danes were defeated with great slaughter by Edmund Ironsides, who had pursued them thither from London.

army (under Hampden and Lord Brooke) to come to their aid, and completely barred any advance on the part of the King's army, which then gave up the attack. This was on the evening of November 12. All that night and the next day, bands of Londoners poured out towards Brentford, and by the morning of Sunday the 14th the Parliamentary General found himself at the head of an army of 24,000 men, drawn up in battle array upon Turnham Green. A battle between the opposing armies was imminent, but the opinions of Hampden and others who urged the attack of the Royalist forces were over-ruled, and the King was allowed to retreat across the Thames, to Kingston, in Surrey. The winter prevented any renewal of active operations for a season.

BRADOCK DOWN.—An engagement which took place upon Bradock Down, in the neighbourhood of Liskeard, Cornwall, about the middle of January, 1643, was the earliest in date of numerous contests in the west of England during the civil war. Bradock (or Broad Oak) Down is about five miles W. by S. of Liskeard. It belongs to the extensive tract of elevated down and moorland which stretches through the length of Cornwall, and fills up the whole interior of the county.

When the civil war was on the point of breaking out, the trainbands of Cornwall, raised at the instance of the high sheriff of the county, had rendered important service to the Royal cause, in the dispersion of riotous assemblages of persons disaffected to the government. But their conditions of service forbade the pursuit of their advantage beyond the bounds of their own county, and the adherents of the Parliament possessed great strength in the adjoining county of Devon. Sir Ralph Hopton and others of the Cornish gentry thereupon raised a considerable force of horse and foot at their own expense, and commissions for the employment of these troops were granted by the King.

The county of Cornwall was by these means secured to the Royal cause, and during the early part of the winter of 1642-3 the Cornishmen made incursions into the adjacent county, even to the walls of Plymouth and Exeter—both of which places were held for the Parliament. In January 1643, a body of Parliamentary forces, gathered in the western counties, and placed under the command of Ruthen (a Scotchman), advanced into Cornwall, crossing the Tamar by a bridge thrown over the river six miles above Saltash. The

Royalists were by this sudden invasion compelled to retire to Bodmin, while the Parliamentary leader advanced as far as Liskeard, within seven miles of that place. Both parties were desirous of a speedy encounter in the open field. Ruthen chose his ground upon the east side of Bradock Down. The Royalist forces, under Sir Ralph Hopton, after a brief contest, beat their opponents off the ground, and put them to a complete rout, pursuing them as far as Saltash.*

STRATTON. — This locality, like that last mentioned, belongs to the south-western corner of England. Stratton is a small market town in the extreme north of Cornwall, about two miles distant from the sea, and three miles from the right bank of the river Tamar — there a stream of slender proportions.

In the west, as elsewhere, a cessation of hostilities had occurred while the abortive proposals for accommodation were passing between the King and the Parliament, in the spring of 1643. But the partisans of either side remained in arms after the encounter near Liskeard, and as the winter drew towards its close several trifling skirmishes, attended with varying results, took place in Cornwall, chiefly along or near the Devonshire border.

Towards the middle of May, the Earl of Stamford marched into Cornwall, by the north part, with a body of 1,400 horse and dragoons, and 5,400 foot, bringing with him a train of ordnance, and a plentiful supply of victual and ammunition. The King's forces, fewer in number, and insufficiently supplied with provisions and other necessities, were quartered at Launceston. The Earl's followers chose for their place of encampment the flat ground forming the top of a high hill, with steep ascents on every side, in the vicinity of Stratton — "the only part of Cornwall (says Clarendon) eminently disaffected to the King's service." Thence they sent nearly the whole body of their horse and dragoons to Bodmin, with a view to surprise the high sheriff and other gentlemen of the county, and so prevent any accession of strength to the Royalist forces in that part of the kingdom. This proceeding proved fatal to their own cause. The Royalist leaders determined on the bold measure of assaulting the Parliamentary camp, in the absence of its horse, and in doing so gained a brilliant success.†

* Clarendon: History of the Rebellion, book vi.

† The contest began about 5 in the morning (May 16), the assailing force having stood in their arms all the preceding night. The Royalists

LANSDOWN, near Bath.—Lansdown lies immediately north of the city of Bath, in the north-eastern angle of Somersetshire. It forms the southward termination of the oolitic range of the Cotswold hills, which stretch along the eastern side of the Severn valley, through the whole length of the county of Gloucester, finally sinking, with a rapid slope, towards the north bank of the river Avon, immediately below Bath.* The surface of Lansdown, like that of the Cotswold range throughout, forms a kind of undulating plateau-region, intersected by depressions or valleys. Its highest point is 813 feet above the level of the sea. It was on this tract of upland that a prolonged engagement, attended with no decisive advantage to either side, took place between the contending armies of the King and the Parliament, on July 5th, 1643.

Sir William Waller, then the favourite General of the Parliament, was stationed at Bath in the early part of the summer of 1643. The broken remains of the Parliamentary troops defeated at Stratton, with various bands raised in the counties of Devon and Somerset, had joined their numbers to the body of forces which he commanded — not, however, without the occurrence of several sharp skirmishes as they advanced, through the last-named county, to—

charged in four divisions, up the respective sides of the hill upon which the Parliamentarians were stationed, a body of reserve being posted near at hand. "In this manner (says Clarendon) the fight began; the King's forces pressing, with their utmost vigour, those four ways up the hill, and the enemy's as obstinately defending their ground." The contest continued, with very doubtful success, till about 3 in the afternoon, when word was brought to the chief officers of the assailing force that their ammunition was almost consumed. Concealing the knowledge of this from their followers, the Royalist officers determined to advance, sword in hand, without any further expenditure of ammunition until they should have reached the summit of the hill, and thus be on a level with the enemy. Seconded bravely by their men, they continued to force their way upward, in spite of a gallant resistance on the part of the foe, whose leader (Major-General Chudleigh) was taken prisoner, and at length the four columns of the assailing party met upon one ground near the top of the hill. There they became masters of some of the enemy's cannon, by means of which the victory was made complete, the Parliamentary troops dispersing in all directions. Above three hundred of the Parliamentarians fell in the struggle, and seventeen hundred were made prisoners. The loss of the Royalists was inconsiderable. The victors rested that night and the next day at Stratton.—*Clarendon*, book vii.

* See *ante*, p. 31.

wards Bath, closely followed by a considerable body of the King's forces, under Prince Maurice, the Earl of Caernarvon, and other noted leaders. The Royalist forces, after resting several days at Wells, advanced to Frome, and thence to Bradford, within four miles of Waller's quarters at Bath. Several skirmishes ensued, with various successes, and almost equal losses on either side. But the Royalists desired to bring about a general action, since they experienced the difficulty of maintaining themselves in a country disaffected to their cause, while the army of Waller had the advantage of being quartered in a good city, abundantly supplied with provisions. After some fruitless efforts to draw the enemy away from his advantage of ground, they at length advanced, with their whole force, to Marshfield, a small town lying five miles distant from Bath, to the north-eastward, as though their intention had been to march towards Oxford, where the King then was, and so unite their forces to his. As they anticipated, the Parliamentary General determined to make an effort to hinder this junction: leaving Bath in his rear, Waller drew out his whole army to Lansdown, and engaged the Royalist forces.

The Parliamentary leader possessed himself of Lansdown Hill on the morning of July 5, as soon as it was light, and raised breast-works there, planting them with cannon. His followers had therefore the advantage of ground, his horse and dragoons charging down the hill, upon the Royalist forces. The latter behaved gallantly, and regained the ground from which the first charge had driven them. The action lasted, with various alternations of fortune, the whole day, but at its close the Royalists had driven their enemy from his ground, and their whole remaining body, horse, foot, and cannon, rested on the summit of the hill; the opposing forces retired in good order from the field, and during the night found a safe shelter in the city of Bath.*

ROUNDWAY DOWN. — The engagement which took place upon Roundway Down, eight days after the action of Lansdown, was a sequel to that contest. In it, a brilliant and decisive success was achieved by the Royalist arms. Roundway Down is an eminence near the town of Devizes, in Wiltshire. The town itself stands upon somewhat elevated

* Clarendon, book vii. The numbers who had fallen were about equal upon either side. Of the King's horse, out of two thousand that were upon the field in the morning, not above six hundred were at the close of the day seen upon the hill-top.

ground, in the centre of the county, and nearly adjacent to the line of watershed between the respective basins of the Salisbury and Bristol Avons. It is overlooked, however, by higher elevations on every side but the east. Roundway Down, one of the most conspicuous of these neighbouring heights, is about a mile and a half distant from the town, in the direction of north by east.

After the action of Lansdown, the Royalist troops had determined to join the King at Oxford, and set out on their march thither, by the road from Marshfield, through Chippenham. The Parliamentary General, with his forces recruited from the adjacent district, marched from Bath in the same direction, and came up with them at or near Chippenham, where the Royalist commanders offered to give him battle. But Waller disliked the ground, as not being well suited for the action of his horse. The Royalists thereupon advanced along the road towards Devizes, into which place (with some skirmishing on the way between their own rear and the advanced parties of the enemy) they succeeded in throwing themselves. The force of Waller, considerably augmented from the surrounding district, on every side completely hemmed in the Royalists, and the Parliamentary General seems to have made sure of their speedy surrender.

But the Royalist leaders adopted a bold measure. The Marquis of Hertford and Prince Maurice, leaving their infantry in the town, but accompanied by all their horse, succeeded, under cover of night, in passing beyond reach of the Parliamentary army, and rode to Oxford, which was little more than forty miles off, and where the King then lay. Meanwhile Waller drew his forces closely round Devizes, which was open, without any fortification or defence, and barred every avenue from it. Then, planting a battery on a neighbouring hill, he poured in shot, but was repulsed in every effort which he made to enter it. The valour of the besieged Royalists prolonged the defence of the place, and gave time for the movements of their leaders. Directly the Marquis and Prince Maurice had reached Oxford, it was determined to despatch a body of fifteen hundred horse, under Lord Wilmot, to the relief of the beleaguered town. This was on the Monday morning, and on the following Wednesday about noon Wilmot appeared, with his horse, upon the plain within two miles of Devizes. Prince Maurice had returned with him, but only as a volunteer, leaving the sole command to Wilmot. The Parliamentary General, on finding this fresh enemy close at hand, drew out his forces upon Roundway Down, which lay between

the town and the troops under Wilmot, and there the battle took place.*

CHALGROVE.—The skirmish upon Chalgrove field preceded by a few weeks the battles of Lansdown and Roundway Down.† It was at Chalgrove that John Hampden received his death-wound. This circumstance alone gives importance to the skirmish which occurred there, on the morning of Sunday the 18th of June, 1643. The spot where Hampden shed his life-blood in the cause of his country's freedom should be classic ground to Englishmen of the latest generation.

Chalgrove is a village in Oxfordshire, lying nearly ten miles distant from the city of Oxford, in a direction of south-east. The road thither from Oxford crosses the river Thame at Chiselhampton. Between three and four miles beyond Chalgrove, in the same direction, is the little town of Watlington, lying close to the western foot of the Chiltern Hills. The town of Thame, on the immediate border of the county (and divided from Buckinghamshire by the stream of the Thame, after that river has watered the fertile vale of Aylesbury), is distant a little more than seven miles in the direction of N.E. from Chalgrove, and nine miles from the village of Chiselhampton, on the Thame. It is necessary to note these localities carefully on the Map, in order to understand the circumstances under which the encounter at Chalgrove took place.

In the month of June, 1643, the King was stationed at Oxford. The head-quarters of the Parliamentary army, under the Earl of Essex, were at Thame. Prince Rupert, receiving intelligence from Colonel Urrey, a deserter from the Parliamentary side, that two

* Waller was confident of victory, and paid the usual penalty of overweening assurance. His horse, though bravely led and fighting bravely, were broken in the first charge. The foot stood firm for a time, but were obliged to give way when the Royalists, becoming masters of their enemies' cannon, turned their own guns upon them. A complete rout of the defeated Parliamentarians ensued. Waller, with a small train of followers, escaped into Bristol, carrying the news of his own disaster.—*Clarendon*, book viii.

† See list, in p. 231.

outlying regiments of the Earl's forces, quartered at Wycombe, lay in such a manner as to expose them to attack, determined to beat up the Parliamentary quarters. His troopers were called together, by sound of trumpet, on the afternoon of Saturday, June 17, and issued from the streets of Oxford by Magdalen Bridge. They numbered two thousand men. Rupert advanced along the road towards Wycombe, crossing the Thame by Chiselhampton Bridge,* and thence proceeding, under cover of the summer night, towards the woodland tract of country within which the villages of Stokenchurch, Chinnor, and Lewknor, with the neighbouring hamlet of Postcombe, are situated. To the northward of this line of march, and but a short distance off, lay Thame, the head-quarters of the Parliamentary General: to the southward, equally near, was Watlington, where Hampden (who had but the day before vainly urged the Earl of Essex to strengthen his line by calling in his detached and outlying picquets) had slept on the night of Rupert's sudden march. As the Prince proceeded on his returning march to Oxford, laden with prisoners and booty, Hampden determined to intercept him, and joined (as a volunteer, for his own regiment consisted of foot) a troop of horse belonging to Captain Sheffield, together with some of the dragoons of Major Gunter's regiment, for the purpose. He had already, on receiving intelligence of Rupert's night-march, despatched a messenger to Essex, urging the importance of his sending a detachment to intercept the returning Royalists at Chiselhampton Bridge, where they must necessarily recross the river Thame. But the advice of Hampden was disregarded by the tardy Essex, and the soldiers of the Parliament looked in vain for the expected column of Essex's force while they charged the advancing squadron of Rupert, whose advance they sought to delay, in order to give time for the movement which Hampden had recommended. A sharp encounter took place upon Chalgrove Field, among the standing corn. The Par-

* The details of Rupert's unexpected movement, derived from a contemporary source, are given in Lord Nugent's "Memorials of Hampden" (London, 1832); also, less fully, in the *Pict. Hist. of England*, and elsewhere. But the looseness with which the facts of topography are too often treated is strikingly shown in the circumstance that all the narrations describe the Prince as having crossed the *Cherwell* at Chiselhampton Bridge. Chiselhampton, as any correct Map will show, is on the Thame, and is six miles distant from the nearest point of the Cherwell.

The tract of country within which Rupert's sudden raid had been executed was one well known to Hampden, and near which great part of his life had been passed. It is intersected (says the author of the "Memorials"), in the upper parts, with woods and deep chalky hollows, and in the vales, with brooks and green lanes.

liamentary troop of horse was thrown into some confusion, and their commander, Major Gunter, was slain. Hampden rode up to support and rally the disordered troop, and, putting himself at the head of a squadron, charged Rupert's right. While spurring up to the Royalists, he was struck in the shoulder by two carbine balls. The reins fell from his disabled arm, and, with his body bending in pain over his horse's neck, he was seen to ride off the field. The troops of his party fell into disorder, and the Prince got safely back to Oxford with his booty.*

TADCASTER, YORKSHIRE.—Tadcaster, a small and well-built town in the West Riding of Yorkshire, lies within the fertile valley of the Wharfe, chiefly upon the south bank of the river, and nine miles S.W. of the city of York. It is a place of ancient origin, and represents the *Calcaria* of the Roman Itineraries. A sharp engagement occurred, close beside the town, soon after the outbreak of the Civil War, early in the December of 1642. This was first in point of numerous contests in the field that took place in the north of England during that unhappy period.

Lord Fairfax, who had been appointed to the chief command of the forces levied by the Parliament in the northern counties, had fixed his head-quarters at Tadcaster. He was attacked there by the Earl of Newcastle, who commanded the King's levies. The fight began about 11 o'clock in the morning, and lasted until 4 in the evening, with somewhat indecisive results. In the end, the Royalists retired from the town, which, however, the Parliamentarians abandoned a day or two after, falling back upon Selby and Cawood.†

HOPTON-HEATH, NEAR STAFFORD.—Hopton Heath is an open tract of ground in the central part of Staffordshire,

* Hampden reached the General's quarters at Thame, where, after six days of intense suffering, he breathed his last. He was buried, a few days later, in the parish church of Hampden (a village lying about three miles to the east of the town of Princes Risborough, and twice that distance to the northward of Wycombe) in Buckinghamshire.

† Rushworth: Historical Collections, part III. vol. ii. p. 91. — A battle had been fought on Bramham Moor, near Tadcaster, above two centuries before (in 1408), during the reign of Henry IV., on which occasion a body of insurgents under the Earl of Northumberland were defeated by the Sheriff of Yorkshire, Sir Thomas Rokeby, the Earl himself being slain in the fight.

midway between the rivers Trent and Sow, and about two miles distant from the town of Stafford, to the north-eastward. A sharp but indecisive conflict took place here upon a Sunday afternoon, about the middle of March, 1643.

The town of Stafford was at the time held by the Royalists. The Parliamentary cause was, however, generally predominant in that part of the kingdom. A Parliamentary force had just succeeded in reducing Lichfield, and its leader proceeded thence to besiege the Royalists in Stafford. The Earl of Northampton, with a body of Royalist troops, threw himself into the town. The Parliamentary General, Sir John Gell, retiring for a while on the Earl's advance, strengthened his forces by junction with a body of troops under the command of Sir William Brereton, who commanded the Parliamentary garrison at Nantwich, an important station. He then moved back towards Stafford, in expectation that the Earl of Northampton would encounter him without the walls of the town, as proved to be the case. The contest took place on Hopton Heath (or Salt Heath, as it was also called). After nightfall, the ground was found too full of coal-pits and dangerous holes for the Royalists to pursue the advantage they appear to have gained, and when morn-
ing dawned their foe had disappeared.*

GRANTHAM. — The market town of Grantham, in Lincolnshire, is a well-known locality. It stands in the south-western part of the county, beside the right bank of the river Witham, about 13 miles below the source of that stream, and 22 miles distant, in the direction of S. by W., from the city of Lincoln. The line of the ancient Ermine Street, a Roman road, passes a short distance to the eastward of the town. Newark-upon-Trent, in the neighbouring shire of Nottingham, is 13 miles N.W. of Grantham. No vestige of tradition indicates the precise locality of the sharp skirmish which took place in the vicinity of Grantham, between the Royalists and Parliamentarians (the latter under the command of Cromwell), on the

* The Royalist leader was killed on the field—a loss to his party (says Clarendon), which more than counterbalanced the advantages in other respects gained by his followers. See *Clarendon*, book vi. Also Rushworth, part III. vol. ii. p. 152.

evening of May 13, 1643, but it must have been about two miles out of the town, on the Newark road.*

WAKEFIELD. — The town of Wakefield stands on the left bank of the river Calder, in the West Riding of Yorkshire, 25 miles S.W. of the city of York. It has been already noticed in connection with an important battle fought in its vicinity, during the Wars of the Roses.† An action which took place there on the 21st May, 1643, and in which a decisive advantage was gained on the side of the Parliament, was fought close beside the town, which afterwards surrendered to the Parliamentary General.

The action at Wakefield was one of the many services rendered by the Fairfaxes to the Parliamentary cause. The Royalist forces, consisting of seven troops of horse and six foot regiments, were in possession of the town, when it was attacked by the Parliamentarians. The town surrendered, and with it General Goring, the Royalist leader, and 1,500 prisoners.‡

ATHERTON MOOR, LANCASHIRE. — This locality is with difficulty recognised on the modern maps. Atherton is in the present day a populous manufacturing village (or chapelry) situated about two miles N.N.E. of the town of Leigh, in the southern division of Lancashire. It lies about 10 miles distant, in the direction of N.N.W., from Manchester, and less than half that distance to the south-westward of Bolton. The present industry of the district is almost

* Carlyle: Letters and Speeches of Oliver Cromwell, vol. i. p. 119. This was the first important occasion on which the services of Cromwell were conspicuously displayed upon the field of battle. He had for some time commanded a formidable body of horse, serving in the eastern counties, in connection with the association formed there on behalf of the Parliament. Cromwell had unsuccessfully assaulted the town of Newark, occupied by a considerable Royalist garrison. It was immediately after this attempt that the fight near Grantham took place. Grantham was also held by the Royalists. The King's troops came out of the town, numbering one and twenty colours of horse, and three or four of dragoons. Cromwell's men were only twelve troops, but their valour and discipline enabled them to achieve a brilliant victory.

† See *ante*, p. 171.

‡ Rushworth: Historical Collections, part III. vol. ii.

exclusively devoted to the cotton-manufacture: coal-pits and factories are the chief objects that chiefly meet the eye of the observer, as he scans the surface of the surrounding moors.

The moors about Atherton were the scene of a severe defeat sustained by the Parliamentary forces, under Lord Fairfax, at the hands of the Royalists, commanded by the Earl of Newcastle, upon the last day of June, 1643.*

GAINSBOROUGH.—The town of Gainsborough, in Lincolnshire, stands on the right bank of the river Trent, which there divides the counties of Lincoln and Nottingham. It is a place of early origin, and was of considerable importance as a port in Saxon times, the Trent being navigable for ships of considerable tonnage up to the town.†

The vicinity of Gainsborough was the scene of an important skirmish between the Parliamentary troops, under Cromwell, and a body of Royalists, headed by General Cavendish (cousin of the Earl of Newcastle), on the last day of July, 1643. The action was fought about two miles south of the town, on the road to North Scarle, “upon an expanse of upland, of no great height, but sandy, covered with furze, and full of rabbit-holes.”‡

* This result formed a striking exception to the general career of good fortune which attended the Parliamentary cause in the north of England.

† It was at Gainsborough that the Danish king, Sweyn, died suddenly (stabbed, some writers say, by an unknown hand) when on the point of re-embarking with his fleet, anchored in the neighbouring river. The site of the Roman *Segelocum* is at Littleborough, also on the Trent, four miles south of Gainsborough, and on the direct line of Roman road between *Lindum* (Lincoln) and *Danum* (Doncaster).

‡ The ground is now much altered, but a lasting memorial of the fight is found in the names of Redcoats Field and Graves Field, which, with that of Cavendish’s Bog, are still preserved. (Carlyle: Letters and Speeches of Oliver Cromwell.)

Gainsborough was besieged by the Royalists. Cromwell sought to raise the siege. He had just taken by assault Burleigh House, in Rutlandshire (near Oakham), and thence, marching through Grantham, and by way of North Scarle—a village lying 14 miles S. of Gainsborough, and just within the Lincolnshire border—advanced towards Gainsborough for the purpose. The Royalist General, Cavendish, was slain in the action that ensued. Cromwell, however, was obliged to retire before the superior force of the Earl of Newcastle, and Gainsborough fell a few days later into the hands of the Royalists.

WINCEBY (HORNCASTLE). — Winceby, a small upland village, easily recognised on the map of Lincolnshire, is situated on the Wolds, between four and five miles eastward of the town of Horncastle. The last-named place lies 17 miles distant from the city of Lincoln, in the direction of E. by S. An action of considerable importance took place at Winceby, upon October 11, 1643, in which the Parliamentary forces, led by Cromwell, and seconded by Sir Thomas Fairfax, gained a brilliant victory.*

NEWBURY. — Two important battles, with an interval of rather more than a year between their dates, took place in the immediate neighbourhood of Newbury, during the Civil War. The earlier of the two, September 20, 1643, was fought within less than a mile of the town, upon its western side.

Newbury, a town of ancient origin,† is situated on the right or southern bank of the river Kennet, in the county of Berks. It chiefly derives importance, in the present day, from its extensive market for corn and other agricultural produce. The manufacture of woollen goods which it once possessed has long ceased to exist.

* Horncastle itself lies at the western foot of the Lincolnshire Wolds. In the Letters and Speeches of Oliver Cromwell (vol. i., p. 142), Winceby is wrongly described as being to the *west*, instead of the *east*, of Horncastle. "The confused memory of this fight," says Mr. Carlyle, "is still fresh there: the lane along which the chase went bears ever since the name of Slash Lane."

The fight at Winceby was one of Cromwell's most brilliant exploits in the field. Cromwell was in imminent personal danger. His horse was killed under him at the first charge, and fell upon his rider: as he rose from the ground, he was knocked down by a blow from one of the enemy, but "recovered a poor horse in a soldier's hands, and bravely mounted himself again." The contest was short and decisive. The Royalist troops, unable to resist the charge of Cromwell's dragoons, were driven back upon their own body, and threw them into disorder; the enemy was routed in less than half an hour. The pursuit was continued to the town of Horncastle or beyond, and above a hundred of the Royalists were found drowned in the ditches and quagmires by the way.

† The site of the Roman station of *Spinæ*, on the opposite side of the river, is closely adjacent. From this proximity, the name of Newbury (i.e. New-byrig, or borough) is supposed to have originated.

The occasion of the first battle of Newbury was the return march of the Parliamentary General, the Earl of Essex, to London, after his relief of Gloucester, during the time of its siege by the King. Essex, advancing from the metropolis, had succeeded in throwing supplies into the besieged city, and, after a stay of three days, set out on his return. At the beginning of this return march, Essex was in advance of the King's forces. But the Royalist horse, under Rupert, harassed his rear, and gained some advantage in the course of his passage through the enclosed parts of Wiltshire. The Earl took up his quarters, during a brief delay, at Hungerford. Meanwhile the King's main body of foot, with his train, hastening up, joined the horse under Rupert, and got in advance of the Parliamentary General, so that when the Earl advanced from Hungerford, on the road to Newbury, he found, upon getting within two miles of that town, that it was in possession of the Royalist army. It was necessary for the Earl to dislodge the King's forces, in order that he might continue his march. The contest lasted a whole day, without decisive advantage on either side. The King's army drew off during the night, and the Parliamentary General was able to enter Newbury, unmolested, on the following morning, thence to pursue his march towards London.*

The second battle of Newbury occurred on Sunday, October 27, 1644, and was the last important action belonging to the campaign of that year. The operations of the battle, with those of the desultory skirmishing which had occurred during the two preceding days, ranged over a considerable tract of ground, lying immediately to the north of the town of Newbury, between the village of Shaw, to the eastward, and that of Speen, in a westerly direction.

The opposing armies were for the second time brought into conflict at Newbury in the course of the King's return march from the west of England to his winter quarters at Oxford.† The King, with

* The battle of Newbury was the last contest of any importance in the open field during the year 1643. It was in this first battle of Newbury that Lord Falkland was killed. The firm stand made by the Parliamentary foot — consisting principally of the London train-bands, composed of apprentices, artizans, and shop-keepers — saved their cause. Rupert's horse found it impossible to make any impression upon the immovable barrier which these pikes presented. Clarendon: book vii. Also Hume, chap. lvi.

† After the important advantage gained over the Parliamentary General, Essex, who had allowed himself to be cooped up in a corner of

the chief part of his army, was quartered in Newbury, when the Parliamentary forces, consisting of the combined divisions of Waller and Middleton, with the troops of Manchester and Cromwell, drawn for the purpose from the eastern counties, and under the supreme command of the Earl of Manchester, resolved to attack him there. The action lasted the whole day, without any decisive issue. During the night, the King drew off his forces, leaving his enemies in possession of the ground, and of the town of Newbury. The Royalist ammunition and baggage were first removed to Donnington Castle, in the neighbourhood — about a mile and a half to the N.W. of Newbury, and beside the little stream of the Lambourne, which joins the Kennet below Newbury.* The King's troops then took the road towards Wallingford.

Twelve days after the battle, the Royalist army, reinforced by the junction of several fresh detachments, returned to the neighbourhood of Newbury, and were suffered, unmolested, to withdraw the ammunition which they had left at Donnington on the night of the engagement.

ALTON. — The town (or “great village” as Clarendon styles it) of Alton is situated in the eastern part of Hampshire, near the source of the river Wey, and amongst the picturesque chalk hills which belong to that district of England. It was the scene, early in the winter of 1643-4, of a sharp action, in which the Parliamentary General, Waller, surprised and routed a body of Royalist troops who were quartered there. The engagement took place on the hill behind the present national school of the town, and the door of the parish church, in which some of the defeated troops took refuge, still bears marks of the shots of the assailants.†

The head-quarters of the Parliamentary General were at Farnham, in the neighbouring county of Surrey, when, learning that a detachment of the Royalist troops, belonging to the forces commanded by

Cornwall, in the neighbourhood of the town of Lostwithiel, between the river Fowey and the sea, where his foot had been compelled to surrender at discretion — the horse cutting their way through the enemy under cover of a fog, while Essex himself escaped by sea to Plymouth.

* Donnington Castle had been for some time unsuccessfully besieged by the Parliamentarians, who had raised the siege on the King's approach.

† Art. Alton: Imperial Cyclopædia of Geography.

Lord Hopton, who was then quartered at Winchester, lay in fancied security at Alton, he surprised them by a sudden night march. The Royalist horse, on alarm of Waller's approach, made a timely retreat to Winchester; but a regiment of foot, five hundred strong, were compelled to surrender, after a stout resistance.*

ALRESFORD. — The town of Alresford — a place which was formerly of more consideration than belongs to it in the present day — is situated on the stream of the Itchen, not far below its source, and between six and seven miles to the E. by N. of Winchester. An action was fought in its neighbourhood, between Alresford and the village of Cherington or Cheriton (situated two miles S. of the town, on the road to Bishop's Waltham), early in the spring of 1644. The Parliamentary General gained, on this occasion, another advantage over the Royalist forces.

The head-quarters of Waller were still at Farnham, and those of Lord Hopton, the Royalist commander, at Winchester. The latter was desirous of retrieving the loss sustained at Alton. Both generals advancing, their respective forces met at Alresford. As evening approached, the Royalists withdrew from the field.†

CROPREDY BRIDGE. — Cropredy is a village in the extreme north of Oxfordshire, situated on the left bank of the river Cherwell, about four miles N. of Banbury. A bridge over the Cherwell connects Cropredy with the meadows on the east bank of the river; in these meadows a sharp encounter took place on the morning of June 29, 1644, between the King's troops and the Parliamentary army under Waller, the Royalists gaining some advantage over their opponents.

The fight at Cropredy Bridge can only be understood by reference to the movements made during the few weeks immediately preceding its occurrence. At the end of May 1644, the King lay at Oxford (where he had passed the winter) exposed to imminent peril of being shut in between the two armies of the Parliament, under

* Clarendon: bk. viii.

† Clarendon: bk. viii.—Hume (chap. lxvii.) refers to this contest under the name of Cherington.

the respective command of the Earl of Essex and Sir William Waller, then making close approach to the city from opposite sides. Essex, from the eastward, threatened to pass the Cherwell, while Waller's forces were close to the right bank of the Isis, only a few miles above the city. The King adopted the resolution of stealing out of Oxford, on the night of June 3, with a part of such forces as he then possessed (leaving the remainder of his army to defend the city, in case of siege), and marched to the north-westward, towards Evesham and Worcester. A feigned movement, made in an opposite direction, deceived the Parliamentary Generals as to his intention. Both Essex and Waller had advanced some distance in pursuit, when the former, finding the King already too far ahead, abandoned the further pursuit to Waller, resolving himself to advance into the west of England, in order to relieve the town of Lyme Regis (where Blake had for some time been making heroic defence against Prince Maurice and his Royalist followers), and to reduce that part of the country in general.

Then followed a close pursuit by Waller of the retreating King, who advanced to Worcester, and stayed there some days. From Worcester the King made a feigned movement northward, by which he deceived Waller into the belief that he meant to pursue his course to Shrewsbury, with a view to joining the Royalist army in the north. The artifice led Waller to advance with all speed northward in the direction which he imagined the King intended to take, while the unhappy monarch — glad to have eluded his pursuer for a time — hastened southward again (by way of Evesham, where he broke the bridge over the Avon, leaving that river between himself and his foes) towards Oxford, in order to unite his forces to the rest of his army, which he directed to meet him at Witney. This junction was effected, and on June 20, within seventeen days of his leaving Oxford under such unpropitious circumstances, the King was again at the head of a respectable force, and in a condition to meet, instead of avoiding, a hostile army.

The Royal army now consisted of 5,500 foot, and nearly 4,000 horse, with a good train of artillery; and with this force the King marched to Buckingham, where he stayed some days, undecided as to his further movements. Waller, meanwhile, had drawn some reinforcements out of Warwickshire, and was again in pursuit of the Royalist army. The King, no longer under the necessity of avoiding the encounter, turned back, through Brackley, towards Banbury, near which latter town the army of the Parliamentary General was now stationed. On the afternoon before June 29, the armies came in view of one another, the river Cherwell flowing between them. The King lay that night in the field, half a mile to the east of Banbury.

He was desirous of drawing Waller from the post of advantage which the Parliamentary force occupied, and with that view moved to the northward, along the east bank of the Cherwell, while Waller followed his movements from the opposite bank. The King endeavoured to secure Cropredy bridge, but a strong detachment of the Parliamentary army forced this passage, and advanced into the fields on its eastern side, while another detachment crossed the Cherwell by a ford a mile below the bridge, and co-operated in the movement. The van of the King's army was already too far advanced to take part in the skirmish which ensued, but the rear-brigade of the Royalist horse, under the Earl of Cleveland, met the enemy's attack with a gallant resistance, and, with trifling loss on their own side, compelled the assailants to make a disorderly retreat. The Parliamentarians lost many both of their horse and foot, with some of their artillery. The Royalists pursued them as far as the bridge, but failed in the attempt to cross it, the Parliamentary General guarding successfully the passage of the river. It was not until night that the combatants separated. The two armies afterwards again drew up on the opposite banks of the Cherwell, and remained in that posture for the space of two days, when they finally moved off in opposite directions. The Parliamentary General advanced into the midland counties, in order to recruit his weakened forces, while the King moved to the westward.*

The battle of Marston Moor (July 2) was fought three days after the King's success at Cropredy bridge. It had been preceded by several other actions in the northern parts of England.

NANTWICH.—The town of Nantwich, well known in connection with its salt-works,† lies in the southern part of Cheshire, upon the right bank of the river Weaver. About a mile distant from Nantwich, in the direction of

* The fight at Cropredy Bridge, generally passed over with slight notice by historians, was of considerable importance in reference to the further operations of the campaign of 1644. It relieved the King from all fear on account of Waller's army, and enabled him to follow the Earl of Essex into the south-western counties, where he finally compelled the surrender of the chief part of Essex's army. The account of the action at Cropredy is derived from Clarendon, bk. viii.

† These were formerly much more considerable than at present. The chief supply of salt within this district is now derived from Northwich, also on the Weaver, several miles lower down its course.

N.W., is the village of Acton. Several miles farther north, within the central part of the county, is Delamere Forest, an extensive wooded tract. Fairfax gained a brilliant victory over the Royalists, near Nantwich, early in 1644.

In the winter of 1643-4, all Cheshire, with the exception of the town of Nantwich, was in the hands of the Royalists. Nantwich, strongly garrisoned by the adherents of the Parliament, was besieged by a Royalist force, under the Lord Byron. Sir Thomas Fairfax determined to relieve the place. Carrying with him a good body of horse out of Yorkshire, and recruited at Manchester by the junction of some other forces with his own, he advanced into Cheshire. His first encounter was with an outlying party of Royalists in the forest of Delamere. Six miles further on, another skirmish occurred, and then, two miles onward, in the neighbourhood of Acton, the chief action ensued. A sudden thaw, which occasioned the rise of a little stream that divided the besieging force, aided the movements of the Parliamentary General, whose victory was complete. The Royalist leader, with such of his followers as escaped from the field, retired to the city of Chester.*

SELBY.—The town of Selby, in the West Riding of Yorkshire, lies on the right bank of the river Ouse, 14 miles S. by E. of the city of York. It had formerly considerable shipping trade, but this has materially declined of late years. Selby was of importance in Saxon and early Norman times, and possessed an abbey (portions of which are included within its principal church) founded by William the Conqueror, whose third son, afterwards Henry I., was born there in 1068.

A sharp action between the Parliamentary and Royalist followers occurred at Selby, in the spring of 1644. Sir Thomas Fairfax, the Parliamentary General, defeated on this occasion the considerable detachment of Royalist troops under Colonel Bellasis, who was taken prisoner. The defeated Royalists fled, some towards Cawood, some towards Pontefract, and the rest towards York.†

* Clarendon: bk. viii. Rushworth: part III. vol. ii.

† Clarendon: bk. viii. Rushworth: part III. vol. ii. Clarendon speaks of the fight at Selby as of prior occurrence to the engagement at Nantwich. The exact date of the first-named event, however (April 11), is derived from Rushworth.

MARSTON MOOR.—The village of Long Marston lies at a distance of five miles to the S.W. of York, about midway between that city and the town of Wetherby (on the Wharfe), and about as far to the northward of Tadcaster. It was on the adjoining heath or moor that the Royalist cause received the most severe blow it had up to that time encountered, in the engagement fought upon July 2, 1644.*

Early in the summer of 1644, a Parliamentary force, under Lord Fairfax, aided by the Scotch army, under the command of the Earl of Leven, had sat down before the city of York. The troops that had been raised in the eastern counties, under the Earl of Manchester and Cromwell, were ordered northward, to co-operate in the siege. York was thus completely invested. Prince Rupert, resolute to raise the siege, advanced through Cheshire and Lancashire to the relief of the beleaguered city, and, uniting his division to the force under the Earl of Newcastle, raised the Royalist army in the north to upwards of 20,000 men. The besieging force was compelled to fall back in the presence of so powerful an army, and the Parliamentary Generals drew up their followers in battle array, upon Marston Moor, on the last day of June. Rupert was thus enabled, unmolested, to throw the necessary succour, in troops and provisions, into York. He then determined, in opposition to the wishes of Newcastle, to give battle to the Parliamentary army, which, meanwhile, had begun on the morning of July 2 to move off the moor, in the direction of Tadcaster. While engaged in this movement, word was brought to the Parliamentary leaders that the Prince had already commenced an attack upon their rear. The whole army immediately faced about, and prepared for the encounter. Some preliminary firing, from the artillery upon either side, took place between the hours of three and five in the afternoon, when a pause ensued, each army expecting the other to begin the attack. It was not until seven in the evening that the battle really began.†

* The battle of Marston Moor occurred at the time that the King and Sir William Waller were facing one another on the opposite banks of the Cherwell, and three days after the fight at Cropredy Bridge.

† Hume, chap. lvii. ; Clarendon, bk. viii. ; Pictorial History of England, bk. vii. Above two hundred years after the date of the battle of Marston Moor, the burial pits of the slain were inadvertently disturbed, in the course of some works undertaken for the purpose of drainage. The bodies were mostly found about four feet below the surface, twenty or five-and-twenty of them together, lying one over the other, in all directions and postures.

The victory gained at Marston Moor gave the Parliament the command of the entire north. Two days after the battle, the victorious army recommenced the siege of York, which capitulated on July 16 following.

ISLIP BRIDGE, OXFORDSHIRE.—Islip is a village lying between four and five miles to the northward of Oxford. The river Ray flows past the village, and joins the Cherwell a short distance below. Islip Bridge, which crosses the Ray, forms part of the main line of road communicating between the part of Oxfordshire lying within the Cherwell valley, from a few miles N. of the city of Oxford upwards, and the hilly country about Watlington, in the S.E. division of the county. A skirmish occurred at Islip Bridge on April 24, 1642, when a body of Royalists were attacked and routed by Cromwell, who had marched thither from Watlington, a small town lying at the foot of the Chiltern hills, crossing the river Thame at Wheatly Bridge, on his way.

NASEBY.—“The old hamlet of Naseby (says Mr. Carlyle) stands yet on its old hill-top, very much as it did in Saxon days, on the north-western border of Northamptonshire, some seven or eight miles from Market Harborough in Leicestershire : nearly on a line, and nearly midway, between that town and Daventry.”

Naseby lies in the very centre of England, within the tract of rising ground that divides the sources of rivers which run respectively to the seas upon opposite sides of the island—the Avon (of Warwick and Stratford) to the westward, the Welland and one of the affluents of the Nen in an eastwardly direction. The ground adjoining the village is of undulating surface, exhibiting on either side hills of gentle slope; formerly open moorland, and only brought under culture within the present century. “It was on this high moor ground, in the centre of England, that King Charles, on June 14, 1645, fought his last battle.” A column, erected in commemoration of the event, stands on the crown of the hill, to the north of the

village, occupying, however, a site which is above a mile eastward of the place where the battle was fought. The field of battle lay to the north-west of the village, the King's army occupying the northern side of the field, with their backs towards Market Harborough, the army of the Parliament ranged so as to face them from the southward. An expanse of upland, now known as Broad Moor, separated the two armies before the fight began, and it was there that the main brunt of the contest took place.*

The second battle of Newbury (Oct. 27, 1644) following upon the successful advance of the King into the south-western counties, had intervened between the battles of Marston Moor and Newbury. The King had marched westward, in pursuit of Essex, after the fight at Cropredy Bridge. The events connected with the movements of the opposing armies (resulting in the enforced surrender of the chief part of Essex's force, in the neighbourhood of Fowey, in Cornwall) occupied the months of August and September of that year. On the King's subsequent march towards London, the second battle of Newbury was fought.

No important contest in the open field occurred during the earlier months of 1645. The King had passed the winter at Oxford. Abortive attempts at a compromise, between commissioners from either side, who met at Uxbridge, occupied a portion of that season. When operations in the field recommenced, with the approach of summer, the Parliamentary army — remodelled after the "self-denying ordinance" — was under the command of Sir Thomas Fairfax, with Cromwell for his second in command. Oxford was threatened with siege, and, afraid of being shut up within its walls, the King left that city, at the head of an army of 5,000 foot and above 6,000 horse, intending to join his adherents in the north. Fairfax was then at Newbury, with his army. The King advanced through Evesham to Worcester, and thence marched northward towards Chester, besieged at the time by a Parliamentary force. The siege of Chester was raised on the King's approach. A change was then made in the Royal councils, and it was determined to make an attack upon the important town of Leicester, then held by a Parlia-

* There are hollow spots, of a rank vegetation, scattered over that Broad Moor, which are understood to have once been burial mounds. Carlyle: *Letters and Speeches of Oliver Cromwell*; vol. i. p. 174, and Appendix. A representation of the Battle—"half plan, half picture"—is to be found in Rushworth, part iv. vol. i. See also Hume, chap. lviii. Clarendon, bk. ix.

mentary garrison. Leicester was successfully assaulted upon the last day of May, and on the following morning its garrison became prisoners of war. With his army considerably weakened by losses sustained in this exploit, the King determined to march towards Oxford. Fairfax, meanwhile, was advancing towards Northampton, in search of the Royalist army. The King had reached Market Harborough, when intelligence of Fairfax's movements reached him. He continued to advance as far as Daventry, where, learning that Fairfax was already at Northampton, he found it prudent to fall back upon Harborough. Cromwell, with his levies from the eastern counties, had joined the Parliamentary General on the 12th, at a place called Flower, near Weedon, a few miles west of Northampton. On the night of June 13, the van of the Royalist army was at Harborough, its rear (with which was the King himself) quartered at Naseby. A scouring party of Fairfax's men beat up the Royal quarters, and compelled the King to make a hasty retreat to the main body of his army, at Harborough, with Prince Rupert. In the council then held, it was determined to turn and face the enemy, and the entire Royalist army advanced for the purpose, on the following morning, towards Naseby, where the battle took place. The result is well known. With Cromwell's horse thundering in his rear, the unfortunate monarch succeeded in getting into Leicester, but, not judging it safe to stay there, he rode the same evening to Ashby de la Zouch, and thence passed on to Lichfield, and so, by Bewdley, in Worcestershire, to the city of Hereford.

LANGPORT.—The battle of Langport (or Lamport, as the name is written by most historians) was fought a few weeks after the battle of Naseby, and was won by the same army that had conquered on the latter field.

Langport is a small town in Somersetshire, situated on the river Parret, near the point where it is joined by the little stream of the Ivel. Ten miles lower down the valley of the Parret, and at about that distance in the direction by N.W., is the town of Bridgewater. At a rather greater distance (nearly 12 miles by the road) to the westward of Langport, is the more considerable town of Taunton, lying within the fertile valley of the Tone, and situated on one of the chief lines of high road to the extreme west of England.

When the campaign of 1645 opened, Taunton was occupied by Blake, who, with a small Parliamentary garrison, had thrown him-

self into it in the summer of the preceding year, and had defended it with the same successful heroism that he had previously exhibited at Lyme Regis. The defenders of Taunton were hard pressed, and Fairfax had sent (in May, 1645) a detachment to the relief of Blake, before setting out to attack the King. General Goring, who had been entrusted with the command of the Royalist army in the west, renewed the attack upon Taunton, but strove in vain to drive Blake out of the place. When the battle of Naseby had destroyed the King's army, and completely broken the Royalist power in the midland counties, Fairfax set out westward, in order to give the necessary relief to the defenders of Taunton. Upon the approach of Fairfax, Goring, with his army, drew off from Taunton, and retired to Langport, fixing his quarters between the rivers about that place, in a position advantageous for defence.* There he was attacked by Fairfax. The battle appears to have been fought in the meadows to the eastward of the town. The Parliamentary General gained a complete victory. The broken troops of Goring were pursued through the town of Langport, and thence to the walls of Bridgewater, of which place Fairfax immediately began the siege.

ROWTON HEATH.—The Royalist troops were routed by a Parliamentary force upon Rowton Heath, in the neighbourhood of Chester, in the autumn of 1645. Rowton, from which the adjoining tract of heath takes its name, is a hamlet situated between two and three miles to the S.E. of Chester, midway between the villages of Christleton and Waverton. The heath, which lies immediately to the northward of Rowton, is traversed by an ancient line of road, known as the "Street Way" (probably a Roman highway) and also, in the present day, by the line of the Chester and Ellesmere canal and that of the railway which connects the city of Chester with Crewe. The action on this spot was connected with the movement of the King on his northward march from Hereford.

A few months after the battle of Naseby, the King (who had passed a portion of the time at Ragland Castle, the seat of the Marquess of Worcester, in Monmouthshire) marched northward from Hereford with a body of horse, intending to join Montrose in Scotland. His line of march had lain through North Wales, the

* Clarendon, bk. ix.; Hume, chap. lviii.

country about Worcester and the valley of the Severn being purposely avoided, owing to its being occupied by the forces of the Parliament, under the command of Poyntz.

When the King approached within half a day's reach of Chester, he learnt that the Parliamentary force by which it had long been besieged had made themselves masters of a portion of the suburbs. The chief part of the King's horse, under Sir Marmaduke Langdale, crossed the river Dee by Holt Bridge (7 miles S. of Chester), and approached the city from the south-eastward, their leader drawing up his force upon Rowton Heath. The King, with the rest of his followers, marched directly into the city, hoping to enclose the besiegers between the assault of the forces under Sir Marmaduke Langdale, and that of the garrison, aided by himself in person. But the Parliamentary General, who had received information of the King's movements, approached the scene of action. Acting in concert with the besieging force (whom he had apprised of his approach), Poyntz attacked with his horse the squadrons of Langdale. The latter, after some preliminary alternations of fortune, were completely routed. The flying Royalists were pursued to the walls of Chester.*

SHERBURN, YORKSHIRE.—Sherburn is a market-town in the West Riding, situated on the banks of a little stream, or burn, which joins the Ouse at Selby. It is 16 miles distant from York, in the direction of S.S.W. and on the line of road from Doncaster northward, through Tadcaster and Wetherby.

The broken remains of the Royalist army, collected at Doncaster, and placed under the command of Lord Digby and Sir Marmaduke Langdale, were defeated at Sherburn, late in the autumn of 1645, by a Parliamentary detachment under Colonel Copley. This happened while the King lay at Newark. Lord Digby had set out on his march northward, to join the Marquis of Montrose: he had advanced as far as Sherburn, when his troops (consisting entirely of horse) were completely routed, with the loss of all their baggage. Some of his dispersed followers reassembled, with their leader, at Skipton, and continued their march thence as far as Dumfries, from

* This action completely destroyed the remains of the army which the King had saved from the field of Naseby. After it, Charles stayed only a single night in Chester, and retired thence to Denbigh Castle. Clarendon, book ix.; Rushworth, part IV. vol. i. The siege of Chester lasted some months longer. The city was delivered up on Feb. 3 following.

which place, deeming their enterprise hopeless,* their officers sought a refuge in the Isle of Man.†

TORRINGTON, DEVONSHIRE.—Torrington, a small market-town in the N.W. of Devon, is situated on the right bank of the river Torridge, nine miles above Bideford, and about ten miles S. by W. of Barnstaple. It formerly had a castle, which stood to the S. of the town. A Royalist force, under Lord Hopton, was defeated here, in February 1648, by the Parliamentary General, Fairfax. The action appears to have been fought upon a common adjoining the east end of the town.

Fairfax, after his victory at Langport, continued his advance westward, and rapidly overcame all opposition on the part of the Royalists in that quarter. The only considerable encounter in the open field took place at Torrington. The defeated Royalists were compelled to retire into Cornwall, where Fairfax ultimately compelled the surrender, at Truro, of such portion of their army as yet remained.‡

STOW, GLOUCESTERSHIRE.—Stow on the Wold is a market-town in the N.E. of Gloucestershire, 26 miles distant from the city of Gloucester, in the direction of E. by N., and between 18 and 19 miles to the N.E. of Cirencester.§ The town stands on the summit of a high and bleak hill, whence its distinguishing appellation. A body of troops, chiefly cavalry, with which Lord Astley was marching from Worcester to join the King at Oxford, in the spring of 1646, was intercepted here by a Parliamentary detachment, under Colonel Morgan.

The Royalists were totally routed at Stow, their leader, with most of his officers, being made prisoner. This action destroyed the last

* Montrose had already, ere Digby set out on this enterprise (on Sept. 13), been surprised by the Scottish General, David Lesley, at Philiphaugh, near Selkirk, and compelled to fly for his life.

† Clarendon: book ix.

‡ Clarendon: book ix.

§ The road which connects Stow with Cirencester is part of the old Roman road, called the Fosse Way, between Durocornovium (Cirencester) and the station of Venonæ (or High Cross).

remaining hope of the Royalist cause. The few who escaped from the fight were so scattered and dispersed that they never came together again; "nor did there remain, from that minute, any possibility for the King to draw any other troops together." *

Two years intervened between the date of the action last referred to, and the renewed outbreak of civil war, in the spring of 1648. This second civil war was of brief duration, the vigour displayed by Fairfax and Cromwell serving to crush within a few months, in so far as their efforts in England were concerned, the insurgents against the authority of the Parliament.

ST. FAGAN'S. — The first in point of date of the contests in the open field which belongs to the renewed civil war occurred at St. Fagan's, a village of Glamorganshire, South Wales, lying about 2 miles westward of Llandaff, and twice that distance from the town of Cardiff. St. Fagan's is merely an agricultural village, with no special importance, and appears from the census of 1851 to have hardly more than five hundred inhabitants. It lies to the right of the main road which leads from Cardiff, by Cowbridge and Bridgend, to Swansea, and thence to the further extremity of South Wales.

The fight at St. Fagan's occurred while Cromwell was marching to quell in person the insurgent movements which had broken out, in favour of the King, in several places within South Wales, and before he had reached the scene of action. Colonel Horton, on behalf of the Parliament, encountered and thoroughly defeated, after an obstinate contest of two hours' duration, the Royalist forces, drawn together under the command of Major-General Langhern, who was on his way to Pembroke, where Colonel Poyer had seized the castle, and defended both town and castle on behalf of the King.†

MAIDSTONE. — The insurgent movements in Kent, against the authority of the Parliament, in the May of 1648, were

* Clarendon, book x.—Rushworth, part iv. vol. i.

† The siege of Pembroke occupied Cromwell nearly seven weeks, the place not surrendering until July 11. On his way thither, Cromwell marched by Monmouth, Chepstow, Swansea, and Caermarthen, quelling insurgent movements on his way. The fight at St. Fagan's is described in Rushworth, part iv. vol. ii.

crushed by General Fairfax, in the course of a rapid advance through the western part of that county, from Blackheath, in the vicinity of the metropolis, to the town of Maidstone.

There was no regular engagement of any considerable magnitude in the open field on this occasion. The Kentish insurgents, collected at Maidstone, had advanced in a tumultuary manner to Blackheath, in the expectation of receiving aid from members of their party in the city of London. This was on May 24th. Fairfax, drawing together the troops at his disposal, and marching over London Bridge towards Blackheath, pressed rapidly upon the retreating foe, whom he drove before him, following them up, by way of Rochester, to Maidstone, where he finally broke their force — some hard fighting occurring upon the evening of June 1st, close beside that town. The greater part of the insurgents who escaped the Parliamentary General, headed by Goring and other officers, crossed the Thames into Essex, and threw themselves into Colchester, of which place Fairfax immediately after began the siege.*

KINGSTON. — Insurgent movements in Surrey, similar to those in Kent, took place in the beginning of July, 1648, at the time that Fairfax was engaged in the siege of Colchester. The neighbourhood of Kingston-on-Thames was the principal scene of these gatherings, the military operations in connection with which extended over the tract of country intervening between Reigate in one direction, and St. Neots in Huntingdonshire in the other.

The insurgents, we are told, several hundred strong, rode from Kingston towards Reigate. A body of Parliamentary troops, under Major Gibbons, drove them back, and a sharp fight ensued "between Nonsuch Park and Kingston." The former of these places is immediately adjacent to the village of Cheam, and five miles to the S. E. of the town of Kingston, a well-known locality — an open undulating tract of country intervening. The defeated Royalists were driven

* The siege of Colchester, one of the most celebrated episodes of the civil war, occupied Fairfax a term of eleven weeks. The town was only surrendered after a close blockade had reduced its gallant defenders to the last extremities of famine. As to the fight at Maidstone, see Rushworth, iv. vol. ii.

across the river and pursued into Hertfordshire; thence, with the aid of a party detached for the purpose by Fairfax from the army lying round Colchester, they were ultimately followed to the neighbourhood of St. Neots, in Huntingdonshire. At this place a stand was made, and a sharp action ensued, in which the Royalists were finally routed, and completely broken.*

PRESTON.—The contest which takes its distinguishing name from Preston consisted of a series of actions which lasted over three days, and the scene of which embraced a wide tract of country, reaching from the town of Preston, on the north, to beyond Warrington in the opposite direction. To understand the various movements—among the most important in the whole civil war—which these events embraced, the reader requires to have the map of Lancashire before him, and to note the following conditions in the geography of the region concerned.

The high road from Scotland to England, by the western side of the island, runs through Lancashire from north to south, entering the county a few miles to the southward of Kendal in Westmoreland, and thence proceeding by Lancaster to Preston, situated on the north side of the Ribble, a short distance above the estuary of that river. Fifteen miles south of Preston is the town of Wigan,† and between eleven and twelve miles further in the same direction is Warrington, upon the river Mersey, and on the southern border of the county. The village of Winwick lies three miles to the northward of Warrington, on the direct line of road from Wigan thither.

The Ribble, which flows past Preston on its way to the Irish Sea, enters the county from Yorkshire, deriving its waters, in their origin, from the most elevated portion of

* See Rushworth, iv. vol. ii.—Hume, chap. lix., refers to this engagement. Clarendon appears to pass it without notice. See also Carlyle (*Letters and Speeches of Oliver Cromwell*, vol. i. p. 277).

† A skirmish occurred at Wigan three years later (August 1651), in which a body of troops—raised by the Earl of Derby for the service of the young King Charles II., then at Worcester—was routed by Colonel Lilburn, one of the officers of the Parliament.

the picturesque district of Craven, through which its course is southwardly (passing the town of Settle on its way), in a valley that is bounded on either side by the high summits of Ingleborough and Penygent. A short distance before it reaches the Lancashire border, the Ribble assumes a south-westerly direction, which it maintains thence to its final outlet. Between twelve and thirteen miles below this south-westwardly bend, the Ribble is joined upon its right bank by the river Hodder, which there forms the border between Yorkshire and Lancashire. A bridge (Hodder Bridge) crosses the Hodder a short way above the junction.

Below the junction of the Hodder, a continuous line of hill, several miles in length, known as Longridge Fell, stretches in a direction parallel to the Ribble, and at a distance of between two and three miles from its stream. The road from Hodder Bridge to Preston lies between Longridge Fell and the right or northern bank of the Ribble, which is not crossed by any bridge in this portion of its channel until within a mile of the town of Preston. Adjacent to the right bank of the Ribble, and along (or closely adjoining) the line of road here indicated, are the present Jesuit College of Stoneyhurst, and (3 miles lower down) the village of Ribchester. The considerable village of Whalley is on the opposite side of the valley, nearly two miles distant from the left bank of the Ribble, and somewhat higher up its valley. The river Calder, which flows past Whalley, joins the Ribble on its left bank, as also does the stream of the Darwen — the latter much lower down, immediately above Preston. The main road from Preston southward, leaving that town by its eastern quarter, crosses the Ribble by a bridge (Ribble Bridge), and almost immediately afterwards crosses similarly the stream of the Darwen. There was formerly no bridge over the Ribble below that just referred to, though there was a ford, capable of being traversed under favourable circumstances of wind and tide.

In August 1648, the Scotch army, seventeen thousand strong (twelve thousand foot, and five thousand horse), under the Duke of Hamilton, aided by a body of English Royalists numbering four thousand (two thousand five hundred foot, and fifteen hundred horse) under Sir Marmaduke Langdale, was marching southward through Lancashire. By the night of the 16th, the main body of the invading force had reached Preston, while various portions of its outlying members lay—some in rear, others in advance, part of them as far ahead as the town of Wigan. The English, under Sir Marmaduke Langdale, were encamped on the east of the town of Preston, in the direction of Longridge Chapel—about four miles up the valley of the Ribble. Cromwell, immediately on his release from the siege of Pembroke, had marched northward into Yorkshire, and had there joined the forces he had brought with him out of Wales to the northern contingents of the Parliamentary army, about Knaresborough and Wetherby. With these forces, numbering, in the total, not more than eight thousand six hundred men, he crossed the high ground which stretches along the Yorkshire and Lancashire border, descending into the latter county by the valley of the Ribble, in order to encounter the invading Royalist army.

Leaving behind him his train of artillery, "because of the difficulty of marching therewith through Craven," and for the sake of greater expedition, Cromwell advanced by way of Skipton and Gisburne to Hodder Bridge, which he crossed on August 16. He quartered his army that night in the fields by Stonehurst, and early on the following morning marched with his whole force down the valley of the Ribble. Upon Preston Moor, lying to the eastward of the town of Preston, the forces under Langdale and the Duke of Hamilton were encountered and completely routed by Cromwell and his men—their broken and scattered bodies flying in various directions, some to the northward, but the main body (under Duke Hamilton himself) crossing the Ribble, and advancing, with all the speed in their power, in a southwardly direction. The Parliamentary General, securing possession of the bridges over both the Ribble and the Darwen, followed the defeated Scots during the two ensuing days, pursuing them closely through the town of Wigan and thence on to within three miles of Warrington. There, at Winwick, the Scots made a stand, and a sharp action ensued, in which they were again routed by Cromwell, and pursued up to the town of Warrington, where their main body finally yielded themselves prisoners of war. The Duke of Hamilton, with about 3,000 of his horse, had meanwhile marched on, across Cheshire, through Delamere Forest, as far as the town of Uttoxeter, in the adjoining county of Stafford,

where he was obliged to surrender, with his followers, a few days afterwards.*

DUNBAR, HADDINGTONSHIRE. — Dunbar is a small seaport town on the eastern coast of Scotland, towards the entrance of the Firth of Forth, and upon the southward side of the approach to that estuary. It stands upon a high rock,† which overlooks the adjacent sea. The mouth of the river Tyne (of Haddington) is between two and three miles distant to the westward: the town of Haddington is nearly eleven miles off in the same direction, and Edinburgh at a distance of about twenty-seven miles. The high whinstone promontory of St. Abbs Head is fifteen miles off in the opposite direction, or to the south-eastward, the little hamlet of Cockburnspath lying about midway between the two localities.

To the southward of Dunbar there is a tract of heathy upland, of between one and two miles in extent from north to south, beyond which the ground rises rapidly towards the outlying ranges of the Lammermoor Hills. Upon either side of the town, and at a short distance from it, the shore-line recedes slightly inland — so that the whole tract of ground about Dunbar itself forms a kind of peninsular plateau, overlooked from the south by the hills which lie in that direction. At the foot of these hills, and at the bottom of a deep grassy hollow or ravine, there flows a little stream — the Brocksburn — which has a north-eastwardly course to the sea, passing on its way the mansion called Broommouth House, situated near its left bank, and less than half a mile above its outlet. Adjoining the southern border of the Brocksburn valley is the eminence of Doon Hill, upon which, on the day preceding the battle of Dunbar, the Scotch army,

* The action at Preston, and the movements of the two following days, are described in Cromwell's own letters, given in Carlyle (*Letters and Speeches*, vol. i.) — See also Clarendon, book xi.

† "On one of those projecting rock-promontories with which that shore of the Firth of Forth is niched and vandyked, as far as the eye can reach." (Carlyle.)

under General Lesley, was encamped. The English army, under Cromwell, lay upon the upland to the northward of the burn — between it and the town of Dunbar, hemmed in within the peninsular tract above described. The London road (from Edinburgh and Haddington southward), crosses the intervening valley at the hamlet of Broxburn, as also now does — at a distance of not more than a quarter of a mile to the south — the line of railway which connects Berwick-upon-Tweed with the Scotch capital.

The battle of Dunbar was fought, in so far as the main brunt of the action is concerned, immediately on the south-eastern side of the burn, on the ground crossed by the lines of high road and railway, at a spot which measures just a mile and a half from the town of Dunbar to the S.E., and hardly more than a mile to the north-eastward of Doon Hill, on which the Scotch army had fixed their camp the day before the contest. This locality — not far removed from a battle-field of earlier date in Scottish history * — was the scene of the decisive victory gained by Cromwell on September 3, 1650.

The breaking out of the war with Scotland, in the summer of 1650, involved the northward march of Cromwell, in command of the English army. Cromwell entered Scotland by the great road along the east coast, passing from Berwick through Cockburnspath, Dunbar, and Haddington, to the neighbourhood of Edinburgh, in which city (or within its eastern suburbs) the Scotch army lay. Cromwell was compelled to confine his movements to within a short distance of the coast, from the necessity of maintaining communication with his ships, whence he drew the supplies of provisions for his troops. The English army reached the neighbourhood of Edinburgh towards the close of the month of July, Cromwell fixing his headquarters at the little town of Musselburgh, on the shores of the Firth of Forth, five miles east of Edinburgh. Thence the English

* In 1296, when Edward I. defeated the Scotch army under Baliol. The exact locality of this older battle-field is a mile and a half due S. of Dunbar, on the northern side of the burn, and less than a mile distant from Doon Hill. A space of nearly a mile and a half separates the two battle-fields.

army moved forward to the adjacent slopes of the Pentland Hills, immediately fronting Edinburgh from the southward, while the Scotch maintained, unmoved, their position within the eastern outskirts of the city and the ground lying between it and the neighbouring firth, "from Leith shore to the Calton Hill." The month of August passed without any material change in these positions of the respective armies, the English General seeking in vain to draw the Scots out to battle. Towards the close of the month, a skirmish took place on the western side of the city, consequent upon a movement by the English in the direction of Stirling. On August 30, it was determined by the English leaders, in a council of war held at Musselburgh, to retire to Dunbar, and the English army began to move thither on the following day. The Scotch General, Lesley, immediately followed in pursuit—the vanguard of the Scots entering Prestonpans before the rear of the English were well out of it. During the following day, Lesley hung close upon Cromwell's rear. On Monday, September 1, the two armies were in the position above described—the Scotch upon Doon Hill, the English upon the moorland tract to the northward, with the town of Dunbar and the sea behind. Cockburnspath and its pass, to the eastward, were in possession of the Scotch, and the English seemed to be enclosed on every side by an army which vastly outnumbered their own.

Upon the afternoon of September 2, the Scotch General began to move his army down from the slopes of Doon Hill to the eastward, with the intention of hemming in the English more completely on that side. Cromwell and his officers, observing the movement, determined at once upon attack. The men lay in arms during the night, and at early dawn of September 3, the English crossed the burn which intervened between themselves and the enemy, carrying confusion and defeat into the Scottish camp, as "over St. Abbs Head and the German Ocean, just then, bursts the first gleam of the level Sun."*

WORCESTER. — The battle which takes its name from the city of Worcester—the concluding engagement of the civil war—was fought on September 3, 1651.

The old cathedral city of Worcester lies within one of the most fertile portions of the Severn valley, principally upon the left or eastern bank of that river. The suburb of St. John's, connected with the city by a bridge which crosses the Severn, is on the west side of the river. A mile and a

* Carlyle: Letters and Speeches of Oliver Cromwell, vol. ii.

half below the city, the Severn is joined on its right bank by the river Teme, coming from the Welsh mountains, and over which there is a bridge at the village of Powick, about a mile above the point of junction. Eleven miles below Worcester (measuring by the windings of the stream) is the little town of Upton-upon-Severn, which stands upon either bank of the river, its two parts joined by a bridge. The battle of Worcester was fought upon both sides of the Severn, the main brunt of the contest being in the meadows to the south-eastward of the city.

The young King, Charles II., had in the summer of 1651 advanced into England at the head of a Scotch army. Marching southward through Lancashire, and thence by way of Shrewsbury, he rested at Worcester, where the royal standard was displayed on August 22. Cromwell, following close upon his line of march, hastened towards the same point, which he approached by way of Evesham, from the south-eastward. Cromwell's force came in sight of Worcester on August 28. The battle was fought six days later.

The Royalists had made an attempt to destroy the bridge over the Severn at Upton, but the work had been so imperfectly accomplished that a detachment of Cromwell's forces crossed the river by it, on the night after their arrival, and succeeded in maintaining their post upon the western bank. On the evening before the battle, General Fleetwood, with a considerable part of the Parliamentary army, crossed the Severn by the same means, it being determined that Fleetwood should attack the Royalist posts at St. John's, the western suburb of Worcester, while Cromwell himself assailed the outposts of the city from the south-east. In the latter direction, near the London road, the defenders of Worcester had erected an entrenchment to which they had given the name of Fort Royal.

It was necessary for Fleetwood's division to cross the Teme, in order to reach the St. John's suburb. The bridge at Powick, over that river, was in possession of the Royalists. Fleetwood therefore threw a bridge of boats across the Teme, close above its junction with the Severn, and also another bridge of boats over the Severn itself, by means of which his own and Cromwell's divisions could communicate with one another. To do this took up the greater part of the day, and it was 5 o'clock, on the evening of Wednesday, September 3, before the fighting began. Charles, with his council of war, had during the afternoon viewed the preparations from the roof of Worcester Cathedral. Fleetwood, on the south-west, drove the Scots before him, from hedge to hedge, and made himself master of the western

suburb, not without hard fighting; but the principal struggle was in the south-east, by Fort Royal and Sudbury Gate, where Cromwell was engaged in person, and where the contest was vigorously maintained through four or five hours of hard fighting. The defeated Royalists were ultimately driven back into the city, and through the streets towards its northern extremity, whence those who were enabled (including the King himself) made their escape.*

* See Cromwell's letters, in Carlyle (*Letters and Speeches*, vol. ii.) "Fort Royal," says Carlyle, "is still known at Worcester, and Sudbury Gate at the south-east end of the city is known, and those other localities here specified." Also, Clarendon, book xiii. The house in which Charles found temporary refuge, before his final escape from the captured town, is still standing.

CHAPTER XIII.

ENGLAND IN THE NINETEENTH CENTURY.

DIVISION INTO COUNTIES.—England is divided into 40 counties, Wales into 12 counties—making in the whole 52. These may be arranged, for the purpose of geographical description, under nine divisions, in the following manner:—

- I. SOUTH MIDLAND COUNTIES, *eight* in number, consisting of Middlesex, Hertford, Buckingham, Oxford, Northampton, Huntingdon, Bedford, and Cambridge.
- II. NORTH MIDLAND, *five*, consisting of Leicester, Rutland, Nottingham, Derby, and Chester.
- III. WEST MIDLAND, *seven*, consisting of Stafford, Warwick, Worcester, Shropshire, Hereford, Monmouth, and Gloucester.
- IV. NORTHERN, *six*, consisting of Northumberland, Durham, York, Cumberland, Westmoreland, and Lancaster.
- V. EASTERN, *four*, consisting of Lincoln, Norfolk, Suffolk, and Essex.
- VI. SOUTH-EASTERN, *five*, consisting of Surrey, Kent, Sussex, Hampshire, and Berkshire.
- VII. SOUTH-WESTERN, *five*, consisting of Wilts, Dorset, Somerset, Devon, and Cornwall.
- VIII. NORTH WALES, *six*, consisting of Anglesey, Caernarvon, Denbigh, Flint, Merioneth, and Montgomery.
- IX. SOUTH WALES, *six*, consisting of Cardigan, Radnor,

Brecknock, Glamorgan, Caermarthen, and Pembroke.*

POPULATION. — The total population of the British islands, in 1861 (according to the census taken in that year), amounted to 29,058,888 persons, of which England and Wales contained upwards of 20,000,000. The distribution between the different parts of the United Kingdom was as follows : —

ENGLAND AND WALES	20,061,725
SCOTLAND	3,061,329
IRELAND	5,792,055
Islands in the British Seas (Man, &c.) . .	143,779
Total	<u>29,058,888</u>

The following Tables show the areas of the different counties of England and Wales (in English square miles), the population of each, and the proportionate number of inhabitants to the square mile : —

ENGLAND.

Counties.	Area	Pop. in 1861	No. of inhab. to sq. m.
Bedfordshire	462	135,265	293
Berkshire	705	176,103	249
Buckinghamshire	730	166,597	228
Cambridgeshire	819	175,950	214
Cheshire	1,105	505,153	457
Cornwall	1,365	369,323	270

* This division coincides, for the most part, with that adopted by the Census Commissioners — the chief exceptions being in the cases of Yorkshire, Lancashire, Cheshire, Monmouthshire, and those portions of Middlesex and the adjacent country which are comprehended within the metropolis. In the census returns, London is treated as a distinct division: the county of York forms also a division of itself: Cheshire and Lancashire together constitute a distinct division (distinguished as North-Western): and Monmouth is classed with South Wales. Eleven divisions are thus formed. But for educational uses, it seems difficult to deviate from the established treatment of York and Lancaster as belonging to the northern counties — six in number.

Counties.	Area	Pop. in 1861	No. of inhab. to sq. m.
Cumberland	1,564	205,293	131
Derbyshire	1,029	339,377	229
Devonshire	2,589	584,531	326
Dorsetshire	988	188,651	191
Durham	973	509,018	523
Essex	1,657	404,644	244
Gloucestershire	1,258	485,502	386
Hampshire	1,672	481,495	288
Herefordshire	836	123,659	148
Hertfordshire	611	173,294	283
Huntingdonshire	361	64,297	178
Kent	1,627	733,675	451
Lancashire	1,905	2,428,744	1,275
Leicestershire	804	237,402	295
Lincolnshire	2,776	411,997	149
Middlesex	282	2,205,771	7,822
Monmouthshire	576	174,670	303
Norfolk	2,116	435,422	206
Northamptonshire	985	227,727	231
Northumberland	1,952	343,028	176
Nottinghamshire	822	293,784	357
Oxfordshire	739	172,266	233
Rutland	150	21,859	146
Shropshire	1,291	240,876	186
Somerset	1,636	444,725	272
Staffordshire	1,138	746,584	656
Suffolk	1,481	336,271	227
Surrey	748	830,685	1,110
Sussex	1,458	363,648	249
Warwickshire	881	561,728	638
Westmoreland	758	60,809	80
Wiltshire	1,352	249,455	184
Worcestershire	738	307,601	416
Yorkshire*	5,983	2,033,054	339

* The three divisions of Yorkshire exhibit the following results: —

Yorkshire.	Sq. m.	Pop.	Inhab. to sq. m.
East Riding	1,200	240,359	200
North do.	2,114	285,181	135
West do.	2,669	1,507,511	565

WALES.

Counties.	Area	Pop. in 1861	No. of inhab. to sq. m.
Anglesey	302	54,546	180
Brecknockshire	719	61,627	86
Caermarthenshire	947	111,757	119
Caernarvonshire	579	95,668	165
Cardiganshire	693	95,668	138
Denbighshire	603	100,862	167
Flintshire	289	69,870	242
Glamorganshire	855	317,751	372
Merionethshire	602	38,888	64
Montgomeryshire	755	67,075	89
Pembrokeshire	628	96,093	153
Radnorshire	425	25,403	59

These Tables show how unequally the population is distributed over the surface of the country. The average number of persons to a square mile is 344 for the whole of England and Wales, and 372 for England only. But the distribution through the different counties ranges from 59 persons to a square mile (Radnorshire), to 7,822 persons within a like extent of surface (Middlesex). In England alone, Westmoreland and Middlesex present the vast difference between 80 persons, and upwards of 7,800 persons, to the square mile. The most populous county of Wales (Glamorgan) has a density of population exactly the same as the average of all England—that is, 372 persons to the square mile.

If we arrange the counties of England in the order of their respective density of population, we find the following results:—

	Inhab. to sq. m.		Inhab. to sq. m.
Middlesex	7,822	Yorkshire (West Riding)	565
Lancashire	1,275	Durham	523
Surrey	1,110	Cheshire	457
Staffordshire	656	Kent	451
Warwickshire	638	Worcestershire	416

	Inhab. to sq. m.		Inhab. to sq. m.
Gloucestershire . . .	386	Suffolk . . .	227
Nottinghamshire . . .	357	Devonshire . . .	226
Derbyshire . . .	329	Cambridgeshire . . .	214
Monmouthshire . . .	303	Norfolk . . .	206
Leicestershire . . .	295	Yorkshire (East Riding) .	200
Bedfordshire . . .	293	Dorsetshire . . .	191
Hampshire . . .	288	Shropshire . . .	186
Hertfordshire . . .	283	Wiltshire . . .	184
Somerset . . .	272	Huntingdonshire . . .	178
Cornwall . . .	270	Northumberland . . .	176
Berkshire . . .	249	Lincolnshire . . .	149
Sussex . . .	249	Herefordshire . . .	148
Essex . . .	244	Rutland . . .	146
Oxfordshire . . .	233	Yorkshire (North Riding) .	135
Northamptonshire . . .	231	Cumberland . . .	131
Buckinghamshire . . .	228	Westmoreland . . .	80

An examination of the respective order in which the counties stand in this list illustrates many of the truths of physical geography taught in a preceding chapter.* This is true alike in respect of the superficial aspect which different parts of the country exhibit, and in respect of what is beneath the surface. Those counties which possess a generally elevated and rugged surface have a low average of population. Westmoreland and Cumberland — the least populous of the English counties — supply an obvious instance. The North Riding of Yorkshire (which, beside a large section of the Pennine Chain, includes the tract of the North York Moors)† has an average little higher than that of Cumberland.

Cornwall, though possessing a rugged interior, besides its abundant mineral wealth, has, from its peninsular shape, a more extended line of sea-coast than any other county, and its average of population is accordingly very much higher than that of the mountain regions in the extreme north, though low as compared with many other parts of the kingdom, and even as compared with the average of the country at large.

The distribution of minerals, however, and the facilities

* Chap. ii.

† See *ante*, p. 29.

afforded for the prosecution of manufacturing industry, more than anything else, have determined the localities of man's resort in large and increasing numbers. It is this that has caused tracts of country, which in an early stage of society preserved an aspect that was strictly rural, to become covered with large towns and busy manufacturing villages, and to be alive with all the varied appliances that denote the application of human industry to the supply of the increasing wants of modern civilisation.

The metropolitan counties—from the various causes, social and political, which draw large numbers to the capital of every state—naturally exhibit the extremest density of population. Putting out of view, however, Middlesex and Surrey,* the above Table shows the coincidence of large populations with the geographical distribution of mineral wealth, and especially of coal. Lancashire, Stafford, Warwick, the West Riding, Durham, Cheshire, Worcester, Gloucester, Nottingham, Derby, Monmouth, Leicester—amongst the most densely populated of the counties—all include portions, more or less extensive, of the coal-fields enumerated in a preceding page. It may even be said that (with the exception of Middlesex, Surrey, and Kent) no county which lies altogether beyond the limits of a coal-field has so many as 300 persons to a square mile. The only one of the Welsh counties that exceeds 300 in the average density of its population (Glamorgan) includes the larger portion of the coal-field of South Wales. Not only is coal worked within the counties which take the high numerical rank in our Table, but iron (for reasons adverted to elsewhere) is most extensively made in the same parts of the country.†

* It is only the eastern division of Surrey, within which a considerable portion of the metropolis falls, that has a high ratio of population. West Surrey is strictly agricultural, and has an average of population not greater than that of the agricultural counties in general. The high average of Kent is partly due to the fact that it includes a portion of the metropolis. Kent has, besides, an unusually large number of maritime towns.

† See *ante*, p. 63.

The coincidence of density of population with the districts which include the great national manufactures is even more obvious. In truth, the two conditions — of mineral wealth, and manufacturing industry — stand in the relationship of cause and effect, man's intelligence and ingenuity being the connecting medium. The metropolis of Britain is the vastest aggregate at once of manufacturing and of commercial industry that the world exhibits. Lancashire and Cheshire include the great seats of the cotton manufacture: the West Riding of York, those of the woollen trade: the counties of Stafford, Warwick, Worcester, and South Wales, those of the trade in iron and hardware goods in general.

Some qualification is necessary to a due appreciation of the truth which the above Table indicates in regard to the distribution of population and national industry. In several instances, particular portions of a county have a density of population either very greatly in excess of, or very considerably below, the average of the same county as a whole. The district of Furness, which forms the extreme northern portion of Lancashire, belongs physically to the mountain region of Cumberland and Westmoreland, and, like those counties, is scantily populated. The southern division of Lancashire, on the contrary, has a density of population which greatly exceeds that of the county as a whole. Northumberland occupies, in the list of counties arranged according to density of population, a low place, its average being only 176 to the square mile: but the tract adjoining the banks of the Tyne, in the south-eastern corner of Northumberland, and within the limits of the Newcastle coal-field, is one of the most densely populated portions of England.

Again, large portions of Devon and Cornwall, comprehending Dartmoor and the adjoining high grounds in the former county, and the bleak moorlands which occupy the interior of the latter, have an exceedingly scanty population. Nine-tenths of the inhabitants are collected within the nume-

rous towns and villages that line the coast. In many parts of the interior there are only a few scattered residents gathered round the shaft of a mine.

The general distribution of the population is further illustrated by noting the average density shown by each of the great divisions into which we have grouped the counties. Thus —

Divisions of England and Wales	Total Area	Total Population	No. of inhab. to sq. m.
I. SOUTH MIDLAND COUNTIES (excluding Middlesex)	4,707	1,115,396	237*
II. NORTH MIDLAND COUNTIES .	3,910	1,397,575	357
III. WEST MIDLAND COUNTIES .	6,718	2,640,620	393
IV. NORTHERN COUNTIES . .	13,135	5,579,943	425
V. EASTERN COUNTIES . . .	8,080	1,588,334	198
VI. SOUTH-EASTERN COUNTIES (excluding Surrey)	5,462	1,754,921	321
VII. SOUTH-WESTERN COUNTIES .	7,930	1,836,685	232
VIII. NORTH WALES	3,130	426,909	136
IX. SOUTH WALES	4,267	708,299	166

It hence appears that the Northern Counties have, on the whole, a much higher average of population than the other divisions of the kingdom. They include, besides, a greater numerical population than any other division, the metropolitan counties alone excepted. Nearly a third of the population of England is found to the northward of a line drawn between the estuaries of the Mersey and the Humber. The coal-fields of South Lancashire, the West Riding, and the tract between the lower courses of the Tees and the Tyne, with the numerous busy seats of industry that have grown into existence within those localities, at once account for the fact. The Eastern Divi-

* If the population of Middlesex be included, the average density of the south-midland division is raised to 666 persons to the square mile. Similarly, the south-eastern division, with the inclusion of Surrey, exhibits an average of 416. But the metropolitan counties offer an obvious exception to the rest of the kingdom in such respects.

sion, which is almost exclusively agricultural, exhibits a lower average than any other portion of England.

The great seats of population, within England, are—
1. the Metropolis; 2. the country adjacent to Manchester and Liverpool, in South Lancashire and the neighbouring parts of Cheshire; 3. the tract adjoining Leeds and Bradford, in the West Riding of Yorkshire; 4. the district which comprehends the lower courses of the rivers Tyne, Wear, and Tees, within Durham and the adjoining portion of Northumberland; and, 5. the country around Birmingham, Wolverhampton, and Dudley, within South Staffordshire and the adjacent portions of Warwickshire and Worcestershire.

The average density of population, at the present time, is greater in the case of England than in any country on the globe, with the single exception of Belgium.*

The total populations of England and Wales respectively, at succeeding intervals of ten years during the present century, with their progressive growth between each interval, are shown in the following Table:—

Years	England	Increase per cent.	Wales	Increase per cent.	England and Wales	Increase per cent.
1801	8,350,859	—	541,677	—	8,892,536	—
1811	9,553,021	14	611,235	13	10,164,256	14
1821	11,281,883	18	718,353	18	13,000,236	18
1831	13,090,523	16	806,274	12	13,896,797	16
1841	14,997,427	14	911,705	13	15,914,148	14
1851	16,921,888	13	1,005,721	10	17,927,609	13
1861	19,093,709	13	1,111,795	10	20,205,504	12

The population of England and Wales became nearly doubled within the first half of the century (1801—1851),

* England, as we have seen above, has 372 persons to the square mile, on the average of the whole country. Belgium has 411 persons to the square mile. The population of China hardly exceeds 300 to the square mile, even if we allow 412,000,000 — the highest estimate that has been given — as the number of its inhabitants.

and upwards of 2,000,000 were added to its numbers within the ten years between 1851 and 1861. The rate of increase has not been uniform, in regard either to time or locality. Population increased faster during the first thirty years of the century than during the later thirty years.* Some districts exhibit an increase greatly in excess of that proper to the country as a whole, while other districts fall below the average ratio. Again, some districts exhibit an actual diminution in numbers within the period between two successive censuses.

This inequality in the ratio of increase has been strongly marked within recent years. It is due to causes which have been long in operation, and which have become increasingly manifest with the growth and developement of the manufacturing system during the present century. The manufacturing portions of the country increase in number of inhabitants much faster than the agricultural portions, and the town populations gain at the expense of the rural districts. That is, the populations of the towns, besides their natural increase, are continually added to by the absorption of those who (from whatever cause) become drawn away from the pursuits of rural industry.

During the ten years between 1851 and 1861, five of the English counties—Cambridge, Norfolk, Rutland, Suffolk, and Wiltshire; with two Welsh counties—Anglesey and Montgomery, actually declined in population.† The manufacturing and mining counties, on the other hand, exhibit an increase which is surprisingly great. The ratio of

* In the former period (1801—1831) the actual increase in the population of England was 4,895,800, and the rate was 53 per cent.: in the thirty years ending 1861, the numerical increase was 6,171,760, equivalent to 44 per cent.

† Of the 651 superintendent registrars' districts into which the whole country is divided for the purpose of obtaining the census returns, no less than 248 (or nearly two-fifths of the whole) exhibit a numerical decrease in the number of inhabitants in 1861 as compared with 1851. The districts which have thus fallen off are almost exclusively agricultural. Those districts which comprise the great seats of manufacturing, mining, or commercial industry, exhibit the greatest increase — in some instances to an extent previously unparalleled.

increase, for the whole of England and Wales, between the years 1851 and 1861, was equivalent to 12 per cent.; but during that period the population of Glamorganshire has increased in the ratio of 37 per cent.; Durham exhibits an increase of 30 per cent.; Staffordshire, 23 per cent.; Surrey, 22 per cent.; Lancashire, 20 per cent.; Kent, 19 per cent.; Middlesex, 17 per cent.; and the West Riding of Yorkshire 14 per cent.

Even in the case of those counties which, on comparison of 1861 with 1851, exhibit a decrease in the total number of their inhabitants, the larger towns show, in most cases, a numerical increase — a fact which illustrates in a most striking manner the tendency of the population to become, with each succeeding decade, more and more commercial and manufacturing, in place of devotion to agricultural pursuits. Thus, the city of Norwich had above 6,000 more inhabitants in 1861 than in 1851, though the whole population of Norfolk was 7,290 fewer in the later than in the earlier period. Similarly, although the population of Suffolk underwent within the same period a diminution of nearly a thousand persons, yet the town of Ipswich added above 5,000 to its numbers. In Wiltshire, again, the towns of Salisbury and Devizes exhibit a small numerical increase, although the population of the county underwent a considerable diminution on the whole.

Industrial occupations.—Every branch of industry for which the climate and natural resources of the country render it adapted is extensively pursued in England. Until the latter part of the preceding century, agricultural pursuits engaged the attention of the larger proportion of the labouring population, and constituted the characteristic feature of the national industry. But since the establishment and rapid growth of the cotton manufacture, the proportion of the inhabitants engaged in manufacturing and commercial pursuits has been increasing.*

* The Census of 1841 gave the following Table, showing the per-centages of the total population of Great Britain, and also of its three component parts, England, Wales, and Scotland, engaged in the great divisions of industrial employment.

AGRICULTURE.—The proportions of cultivable and uncultivable land in the whole of England and Wales are estimated to be:—

<i>In England:</i>		Acres
Cultivated	25,632,000	
Capable of cultivation	3,454,000	
		<hr/> 29,086,000
Unproductive land		3,256,400
		<hr/>
Total		32,342,400

<i>In Wales:</i>		Acres
Cultivated	3,117,000	
Capable of cultivation	530,000	
		<hr/> 3,647,000
Unproductive		1,105,000
		<hr/>
Total		4,752,000

	England	Wales	Scot-land	Great Britain
Trade, Commerce, and Manufactures	16.9	9.9	18.1	16.5
Agriculture	7.7	11.4	8.8	7.9
Domestic Servants	6.2	6.9	6.1	6.2
Labour not agricultural	4.2	5.8	3.2	4.1

Regarding the whole population as divided into the three great classes of Agricultural, Commercial, and Miscellaneous (the last including, with those engaged in professional pursuits, all who are not directly employed either in the labours of agriculture, or in those of commercial or manufacturing industry), the following per-centages are shown under the head of each, at the dates of four succeeding censuses:—

Year	Agricultural	Commercial	Miscellaneous
	Per cent.	Per cent.	Per cent.
1811	35	44	21
1821	33	46	21
1831	28	42	30
1841	22	46	32

This Table shows strikingly the gradual decline in the numbers devoted to agricultural pursuits within the period over which it extends. The two later censuses, though supplying an immense amount of detail under a minute division of heads of occupation, do not give the figures necessary to bring this Table down to the present date. But the information which they furnish shows conclusively that the increase in the ratio of persons engaged in trade and manufacture, and the decrease in the proportion of those employed in agricultural pursuits, have gone on with even greater rapidity during the two later decades than during the prior thirty years of the century.

The total quantity of cultivable land in England is thus about 29,000,000 acres, estimated to be capable, under a proper system of agriculture, of affording support to a larger population than the country at present contains.

In England, of the land in cultivation, the proportion under tillage and in gardens is about 10,500,000 acres, and that consisting of meadows, pastures, and marshes, 15,500,000 acres. In Wales, only 900,000 acres are under tillage, and 2,250,000 in pasture.

The districts in which *tillage*, or arable husbandry, is pursued, are chiefly in the east and south-east portions of the island, embracing the counties of Kent, Essex, Suffolk, Norfolk, Hampshire, Berkshire, Bedford, Surrey, Sussex, Hertford, parts of Yorkshire and Lancashire, with Durham and Northumberland.

The principal *dairy* counties (from which butter, cheese, and other farm produce are derived) are Cheshire, Shropshire, Gloucester, Wiltshire, Buckingham, Essex, York, Derby, Cambridge, Dorset, and Devon. The counties most distinguished for breeding and fattening cattle and sheep are Lincoln, Somerset, Leicester, Northampton, with the districts of Teesdale in Durham, and Cleveland and Holderness in the North and East Ridings of Yorkshire. In Wales, sheep and cattle (including numerous goats) are pastured on the hills, and tillage and dairy husbandry carried on in the valleys.

The counties in which the largest proportion of the inhabitants are engaged in agriculture are Lincoln, Rutland, Essex, Hereford, Huntingdon, Wiltshire, Buckingham, Suffolk, Cambridge, the North Riding of York, Bedford, and Berkshire. All of these are essentially agricultural counties. In Lincolnshire, the proportion of the population engaged in agriculture is 15·9 per cent., and in the above counties in general it is from 10 to 14 per cent. In Middlesex, on the other hand, only 1·1 per cent. of the inhabitants are thus engaged, and in Durham, Surrey, and the West Riding of Yorkshire, the proportion is only 4·4, and in Lancashire 6·7 per cent.

The agricultural produce of England is very considerable. Wheat forms the principal crop, and constitutes nearly one-half of the total value; next in importance are oats (and with them beans): barley and rye are grown to a smaller extent, and the latter is not so common now as formerly. Potatoes, turnips, rape, clover, hops, and garden fruits and vegetables, are raised in very considerable quantities. Wheat is most extensively cultivated in the south-east, barley chiefly in the eastern and midland counties, and oats in the fen districts and also in the north. Hops are chiefly cultivated in the counties of Kent, Surrey, Worcester, and Hereford.

The potato is very largely grown in Lancashire, Cumberland, and Cheshire, and the turnip in Norfolk. Rape is much cultivated in Lincolnshire and Cambridgeshire: both hemp and flax are grown to

a small extent in the counties of Lincoln and Suffolk. Garden vegetables are most extensively grown in the metropolitan county, and in the neighbourhood of the large towns in general. Apple, pear, plum, cherry, and apricot trees, with other productions of the orchard, are very generally diffused, but the counties of Hereford and Devon are especially distinguished by the extensive cultivation of the apple, from which great quantities of cider are made.

The practice of scientific husbandry has within recent years made considerable advances, involved in a more extended system of drainage, and in the increasing use of artificial manures, chiefly guano (brought for the purpose from a distant part of the globe), with town-refuse and sewage. Great advantages have resulted from the facilities presented by railways for the supply of lime and other materials of agriculture, and also for the transmission of the produce to market. One consequence of this has been the great extension of market-gardening, and the increasing use by the town population of the ordinary vegetable productions of the rural districts.

MANUFACTURES.—Great Britain is unequalled by any country in the world in the immense amount and variety of her manufactured products, the skill and ingenuity of her artisans, and the elaborate machinery by which their labours are assisted.

The great manufactures are those of woven and felted materials, and metals or hardware; and of these, cotton, wool, and iron, are by far the most important. Next in importance are the manufacture of leather, silk, linen, glass and earthenware, watches and jewellery, paper and hats. The various manufactures of beer, spirits, soap, candles, with the different branches of the timber and building trades, ship-building, turnery, coach-making, musical instruments, &c., are also carried on to a considerable extent, and employ the labour of great numbers of the people. The manufacture of various articles from india-rubber, and also from gutta-percha, both of comparatively recent introduction, may be instanced as examples of the readiness with which the skilled labour of our artisan population adapts itself to every material presented to the exercise of its industry.

The *cotton manufacture* has its chief seat in Lancashire, Cheshire, and the neighbouring counties of the north midland district. The number of cotton-mills exceeds 2,000, which, when in full operation, give employment to nearly half a million hands; four-fifths of the total amount of power being supplied by steam. More than half of the entire number of cotton-mills are situated in Lancashire. The principal places in which the cotton manufacture is carried on are Manchester, Oldham, Bolton, Ashton, Preston, Blackburn, Bury, Middleton, Burnley, and Chorley, all in Lancashire—Stockport, Hyde, and Duxford, in Cheshire—and Glossop in Derbyshire.

The hosiery manufacture, in which cotton is chiefly used, and

which employs above 50,000 persons, is principally carried on at Nottingham; the manufacture of woollen stockings at Leicester, and of silk at Derby. In the three counties of Nottingham, Leicester, and Derby, there is also a considerable manufacture of cotton into lace and bobbin-net.

The West Riding of Yorkshire is the chief seat of the *woollen manufacture*, which, until the introduction and rapid extension of cotton during the latter half of the last century, was the staple manufacture of England. Leeds, Bradford, Halifax, and Huddersfield, all in the county of York, with Rochdale in Lancashire, are the towns in which it is most extensively carried on. At Norwich, on the east side of the island, there is a considerable manufacture of crapes, and in the West of England broad-cloths and kerseymeres are extensively made in the counties of Gloucester and Wilts.

The making of *carpets* is most extensively pursued in the West Riding of York, and at Kidderminster (in the county of Worcester): also at Louth, in Lincolnshire, and elsewhere. What are called Brussels carpets are chiefly made at Kidderminster, and the so-called Kidderminster carpets are mostly the produce of Yorkshire or of Scotland.

The manufacture of flannel and of various woollen goods is largely carried on in Wales, chiefly within the county of Montgomery, and to a less extent in the counties of Glamorgan, Caermarthen, Denbigh, and Merioneth. Newtown and Llanidloes (both in Montgomeryshire) are the chief seats of the flannel trade.

In 1851, the total number of persons in Great Britain engaged in the woollen-cloth manufacture was upwards of 137,000, and those employed in the worsted manufacture numbered upwards of 164,000 — making a total of above a quarter of a million.

The *silk manufacture* is carried on in the metropolis, and in the counties of Chester and Lancaster; the district called Spitalfields, in the east of London, with the towns of Macclesfield and Derby, are its principal seats. The silks of England make near approach to those of France in point of taste and elegance of design. The silk manufacture employed, in 1851, above 114,000 people.

The *linen manufacture* is small in extent, and the town of Barnsley, in the West Riding of Yorkshire, is its principal seat. In 1851, the number of persons in Great Britain employed in the linen and flax manufacture was little short of 100,000.

Besides the above, a great variety of other branches of textile manufacture are pursued, including the working of hemp into sack-ing, cordage, canvas, &c., rope-making, straw-plaiting, basket-making, wire-working; the making of ribbons, fringes, trimmings, the printing of cottons, and numerous others.

The *iron and hardware manufacture* has its chief seats in the south part of Staffordshire and the adjacent portion of Warwick; in Shropshire, Derbyshire, and the West Riding of York; and in the county of Glamorgan, in Wales. The principal towns for the making of hardware goods are Birmingham, Dudley, Wolverhampton, Walsall, and Bilston; together with Sheffield, in Yorkshire, which is the chief seat of the cutlery trade. In Wales, Merthyr-Tydvil is the centre of this branch of industry.

The various branches of the *leather manufacture* give extensive employment, and the boot and shoe makers alone number in Great Britain considerably upwards of a quarter of a million. The shoe trade has its chief seat in the counties of Northampton, Stafford, and the metropolis; that of gloves at Yeovil, Woodstock, Worcester, and elsewhere; of saddlery in London and Staffordshire; and that of furs in London.

The making of *earthenware* is most extensively pursued in North Staffordshire, within the district known as the Potteries. Porcelain is also made in Derbyshire, at Leeds, and at Worcester, which latter place is especially distinguished for the beauty of its china. *Glass* is made chiefly in the neighbourhood of Newcastle, in London, in Staffordshire, Lancashire, and also at Birmingham, Stourbridge, Bristol, and other places.

The making of *watches and clocks* employs nearly 20,000 persons; London is the principal seat of this branch of industry, which is also extensively pursued at Liverpool, Coventry, and other places.

The manufacture of *silver and plated goods* has its chief seats in London, Birmingham, and Sheffield. In the former place most silver plate is made, in the two latter most of the plated ware. Gold plate is likewise made in London.

The manufacture of *paper* is chiefly carried on in the counties adjacent to the metropolis, which is the great seat of the book trade. In connection with the book trade is the employment of a large number of printers, engravers, bookbinders, book and print-sellers, type-founders, ink-makers, map-sellers, &c.

The manufacture of *beer and spirits* is a very considerable branch of industry. The quantity of beer annually brewed is not less than 12,000,000 barrels, and the quantity of spirits made averages in England alone nearly 8,000,000 gallons, and in the whole of the United Kingdom upwards of 28,000,000 gallons.

Ship-building employs in Great Britain above 25,000 persons. In England, it is most extensively pursued at London, Liverpool, Sunderland, Plymouth, and Portsmouth; to a less extent at Chatham, Hull, Bristol, Whitby, Yarmouth, Newcastle, Whitehaven, and most other ports. "

The counties in which the largest proportion of the inhabitants are engaged in the pursuit of trade and manufacture are Lancashire, the West Riding of Yorkshire, Chester, Warwick, Nottingham, Middlesex, Leicester, Derby, Stafford, and Worcester. These are essentially the manufacturing counties. Lancashire is identified with the cotton manufacture; the West Riding of Yorkshire with that of woollen goods; Staffordshire, and the adjacent parts of Worcester and Warwick with the making of iron and hardware; these three localities represent the great and prominent features in the manufacturing industry of our country.

COMMERCE. — The foreign commerce of Great Britain is more considerable than that of any other country, and extends to the most distant parts of the globe. It consists for the most part in the *import* of raw materials and tropical produce, and the *export* of manufactured goods — our ships in many cases carrying back to distant countries in a manufactured state the fabrics originally brought thence in the condition of native and unworked material. This is especially the case with the cotton trade, the material of which is wholly derived from abroad, and its consumption in a manufactured state largely dependent upon foreign markets. To a less extent, the woollen trade is of similar character, the greater part of the material being derived from abroad, though a considerable quantity is also drawn from the home supply.

Imports. — The largest article of import in Great Britain is *cotton* — that is, the soft downy substance contained within the pod of the cotton-plant. Raw cotton constitutes the material for the most extensive of our manufactures, and our supply of it is entirely derived from other regions of the globe, possessing a warmer climate than that of the British Islands. The first introduction of cotton into England has been noticed in a preceding page. The supply which our manufacturing industry rendered necessary did not become considerable until the latter portion of the last century, and it is only within the present century that the vast increase in the extent of the cotton manufacture has caused the cotton trade to assume dimensions so unprecedented and colossal as now belong to it.

The United States have furnished, during the last forty years, the vastly greater portion of the cotton consumed in the manufactures of Britain, and the proportion which the supply derived thence has borne to that furnished by other countries has, until within a very recent date, continued to increase. This is conclusively shown by the following Table, which gives, in successive periods of five years each, the number of bales of cotton imported from the United States, and also from all other countries unitedly: —

Years	From United States	From all other Countries	Total
	bales	bales	bales
1820 to 1824	357,366	253,112	610,778
1825 to 1829	513,724	255,027	768,751
1830 to 1834	677,833	277,803	955,636
1835 to 1839	957,264	324,487	1,281,751
1840 to 1844	1,211,840	391,820	1,603,660
1845 to 1849	1,168,680	383,820	1,552,500
1850 to 1854	1,600,840	594,280	2,195,120
1855 to 1859	1,797,475	742,175	2,539,650

It hence appears that the United States have furnished, during the last forty years, a proportion varying from three-fifths to six-sevenths of the total quantity. Ten years ago, the total yearly supply amounted to between six and seven hundred millions of pounds (in weight of wool): of this quantity, the United States supplied four-fifths, India only one-tenth, and Brazil and Egypt the chief part of the remainder. Within later years, while the absolute quantity derived from the United States has continued to increase (with the increasing demand for its use in British manufactures—though not in equal ratio to the latter), the proportion of the total supply yielded by other countries has shown a gradual and steady augmentation. In 1860, the total quantity of cotton imported into Britain reached the vast amount of 1,390,909,792 lbs., or upwards of 12,000,000 cwt. This was derived thus—

	lbs.
From United States	1,115,890,608
Brazil	17,286,864
Egypt	43,954,064
East Indies	204,132,208
Other countries	9,666,048
Total	<u>1,390,929,792</u>

The political events of 1861 within the American continent, consequent on the secession of the Southern (or cotton-growing) States from the Union, have led to a total stoppage of supply from that source—hitherto, as we have seen, so vastly superior in magnitude to all others unitedly. The regions to which attention is at the present time most hopefully directed with reference to a future supply of this indispensable material, in addition to the Southern States of the North American continent, are—British India, Egypt, Brazil, the West Indies (especially Jamaica), Natal, and Queensland (Australia).

Wool is imported from the British colonies in Australia, the Cape of Good Hope, the East Indies, and Germany. The Australian colonies alone furnish nearly half the entire quantity, and the supply derived thence is yearly increasing. The annual import of wool into Britain exceeds 120,000,000 lbs. Alpaca and llama wool are largely imported from South America, and their consumption is on the increase; as is also that of mohair, or goat's wool, from the countries of Western Asia.

Silk is imported, in a raw state, from India, Italy, China, and France, of which India supplies the largest proportion. The quantity annually imported exceeds 12,000,000 lbs. The import of manufactured silks, chiefly from France, is also very considerable.

Flax is imported from Russia and other countries adjacent to the Baltic, chiefly for the supply of the Scotch and Irish manufacture. *Hemp* is largely imported from Russia: *jute*, which has in great measure taken the place of hemp, is imported in large quantity from India.

Hides are imported from Russia, India, the Cape of Good Hope, and South America. Russia supplies the largest quantity of these, and also of *tallow*, which forms a very considerable article of import.

Of *timber*, the largest proportion (chiefly pine and fir) is derived from Canada and other British provinces in North America; also a considerable quantity from Prussia, Russia, and Sweden and Norway. Mahogany is chiefly brought from Honduras, and a variety of ornamental woods, including cedar, boxwood, rosewood, satinwood, &c., from the coasts of tropical Africa, the East Indies, and the countries on the eastern Mediterranean. Teak is imported from India and Western Africa, and is largely used for ship-building.

Of articles of food imported for home consumption, the most important are *tea* (about 70,000,000 lbs. annually), derived almost wholly from China; *coffee* (60,000,000 lbs.), principally from Ceylon, Central America, the West Indies, and Brazil; and *sugar* (more than 800,000,000 lbs.) from the West Indies, Mauritius, Cuba, the East Indies, and Brazil, together with a considerable quantity of molasses or treacle.

Of *spirits and wines*, brandy (about 3,000,000 gallons) is imported almost wholly from France—rum (above 7,000,000 gallons) chiefly from Jamaica and other ports of the West Indies—and wine (above 12,000,000 gallons) principally from Spain, Portugal, and France: to a much less extent, from Germany, South Africa, Sicily, Madeira, and the Canary Islands.

Of various *oils*, palm-oil is imported from Western Africa—olive-oil from Italy, Spain, and Turkey—rape-oil from Holland and Germany—cocoa-nut oil from the East Indies—cod-oil from

Newfoundland—spermaceti and various train-oils from the fisheries in the South Pacific Ocean, and the shores of Australia, Newfoundland, and Greenland. To these has become added, within a recent date, petroleum or mineral oil, derived in large quantities from Canada and the United States. A considerable quantity of cod-oil is obtained from Peterhead (on the coast of Aberdeenshire), and rape-oil is extensively made at Newcastle, South Shields, Liverpool, and other places on our own shores.

Grain of various descriptions is annually imported into the British Islands, the quantity of corn raised within which falls very considerably below the requirements of the population. These embrace *wheat* (principally from Russia, Prussia, the United States, France, Egypt, Turkey, British North America, Denmark, and Germany)—*barley* and *oats* (from Denmark, Germany, and Holland)—*rye* (from Russia)—and *maize*, or Indian corn, principally from the United States, the Turkish provinces on the Danube, Austria, and Hungary. *Rice* is imported from the East and West Indies, and the United States; *sago* from the East Indies; *arrow-root* from the Bermudas, the East and West Indies, and South America.

Of an immense variety of other articles of import, some of the principal are cocoa (South America);—pepper, ginger, nutmegs, cinnamon, cloves, and other spices (from the East Indies and Ceylon);—dried fruits, including raisins (Spain, Turkey, and other Mediterranean countries), currants (from Greece and the Ionian Islands), and figs (from Turkey);—oranges (from the Azores, Spain, Portugal, and Malta);—nuts, almonds, &c. (from Spain and Portugal);—butter, eggs, and cheese (from Holland, France, and the Channel Islands, and the latter also from the United States);—salt beef and pork;—various medicinal herbs (from Turkey, China, South America, India, and the United States);—with pine-apples, yams, and other tropical fruits (from the West Indies).

Tobacco is largely imported (above 50,000,000 lbs. annually), chiefly from the United States; also from various parts of the East and West Indies.

To the above may be added various dyes and tanning stuffs, including indigo, cochineal, shumac, valonia, gum-arabic, shellac, madder, &c.;—pot and pearl ashes (from the United States and Canada);—barilla (from Spain and other Mediterranean countries);—sulphur (from Naples);—saltpetre (Peru, India, &c.);—together with many others of less importance. Guano is largely imported as a manure, chiefly from the Chincha Islands, on the coast of Peru.

In 1860, the total value of imports into the United Kingdom was 210,648,643*l.* sterling. In 1854, the earliest date at which the real value of imports is ascertainable, the amount was little more than 150,000,000*l.*

Exports.—The principal articles of export from the British Islands, enumerated in the order of their importance, are manufactured cotton and woollen goods, cotton yarn, wrought iron and steel, hardware and cutlery, linen manufactures, copper and brass goods, coals, earthenware, manufactured silk, beer and ale, leather, glass, tin, salt, dried fish, soap and candles, machinery, stationery, books, &c. The total value of these averages annually above 100,000,000*l.*; of which cotton manufactures and cotton yarn amount to upwards of 40,000,000*l.*; woollen manufactures to above 10,000,000*l.*; linen manufactures to above 5,000,000*l.*; metals (chiefly iron and steel) to above 14,000,000*l.*; and hardwares and cutlery to upwards of 4,000,000*l.* The linen, however, is chiefly the produce of Scotland and Ireland.

Of these articles, the largest quantities are exported to the United States; next in succession, to the East Indies, Germany, Prussia, Holland, the British colonies in North America, Brazil, Turkey, France, the West Indies, Russia, Australia, Italy, China, Spain and Portugal, Chili, Peru, and other South American States; and in a less degree to every country on the face of the globe.

The total value of exports of British and Irish produce, in 1860, was 135,842,817*l.* This is considerably more than twice the correspondent amount for 1851, the export trade of Britain having more than doubled itself within the last ten years.

The quantity of *shipping* by which so large a foreign trade is carried on is necessarily very considerable. At the end of 1860, the number of sailing vessels registered in the various ports of England and Wales was 19,501, with a total tonnage of above 3,370,000. This number is exclusive of the Isle of Man and the Channel Islands, to which belonged 887 vessels, with a tonnage of 70,000. Of steam vessels, there were, belonging to England and Wales, 684 under 50 tons, with a tonnage of 15,500; and 822 above 50 tons, with a tonnage of 323,500. To the Isle of Man and the Channel Islands there belonged 12 steam vessels, with a tonnage little short of 3,000.* The amount of steam-tonnage exhibits a vast increase within the last ten years, especially in the case of that employed in the foreign trade.

* At the same date (Dec. 1860) there belonged to Scotland 3,172 sailing vessels, tonnage 552,000; and 133 steam-vessels, tonnage, 71,500. To Ireland, 2,103 sailing-vessels, tonnage, 211,000; 85 steam-vessels, tonnage 41,700. The total amount of British shipping was thus—sailing vessels, 25,663; tonnage, 4,204,324;—steam vessels, 2,000; tonnage; 454,000.

The number of vessels registered in 1861, in various British colonies

Of the tonnage of ships, not English, engaged in the foreign trade of Britain, the largest quantity belongs to the United States, and next in order to France, Germany, Denmark, Prussia, Russia, Holland, Norway, Sweden, Italy, and Belgium.

The voyages made in the coasting trade between the various ports of the British Islands amount annually to upwards of 300,000 in number (above 30,000,000 tons), of which the coasting trade of England alone is about 22,000,000 tons.

The principal ports for the foreign trade are Liverpool, London, Hull, Stockton, and Southampton; for the Irish trade, Bristol and Liverpool; and for the coasting trade in general, Newcastle, Gloucester, Plymouth, Whitehaven, and Sunderland. In 1861, the total tonnage of ships entered and cleared at the port of London was upwards of 5,591,000: that of Liverpool was little short of 6,000,000 (5,951,000). The foreign tonnage of Liverpool has for several years past exceeded that of London.

Internal trade and means of communication.—The vast internal traffic constantly carried on in every part of the British Islands (and especially in England) is facilitated by the numerous roads which, together with canals and railways, intersect the country in every direction. In England alone are above 2,300 miles length of *canals*, and 1,800 miles of river navigation, so that a most extensive system of water communication is formed between the different parts of this country. The first canal formed in England was completed in the year 1760. By means of these artificial channels, the opposite shores of the island are united, and the waters of all the principal rivers connected one with another. Thus, the basin of the Humber is united to that of the Mersey by canals which in three different places cross the watershed of the Pennine Chain (the Leeds and Liverpool, the Rochdale, and the Huddersfield Canals), and also by the Grand Trunk Canal, which unites the waters of the Trent and the Mersey. From the last-mentioned canal, again, a similar line of communication extends through the middle of the country, past Birmingham, to the Thames, at London, and also, by the valley of the Cherwell, to the same river at Oxford. The Thames and Severn Canal con-

and possessions, was—in Africa, 291 sailing-vessels, tonnage 26,494, and 5 steamers of 437 tons; in Australia, 1,428 sailing-vessels, and 104 steamers, of which 213 sailing-vessels and 4 steamers belonged to New Zealand, the tonnage of the whole, 146,613; in the North American colonies, 6,578 sailing-vessels and 165 steam-vessels, tonnage 639,612, an increase of more than 30,000 tons over 1859. In the British West Indies there were 664 sailing-vessels to three steamers, tonnage 23,018. The total number of British and colonial vessels, sailing and steamers, was 37,180, and the total tonnage 5,494,825.

neets the waters of those rivers, crossing the line of the Cotswold Hills; and the Kennet and Avon Canal unites the Kennet (a tributary of the Thames) with the Lower Avon, which flows into the Bristol Channel. Others, again, extend from the basin of the Thames to the rivers of the south coast. Although, since the introduction of railways, of less relative importance than formerly, the canal and river navigation is still largely used for the conveyance of heavy goods.

Railways.—The first railway constructed expressly with a view to passenger traffic, and worked by locomotive engines, was that between the towns of Liverpool and Manchester (a distance of thirty-one miles), opened in 1830. Within the period since elapsed, this mode of communication has increased to an astonishing extent, and at the present time the total length of the railways open for traffic in England and Wales is above 7,500 miles. Altogether, England has a more extensive system of railway communication than any other European country, excepting Belgium.

Since the formation of railways, the internal traffic of the country has vastly increased, owing to the greatly increased rate of speed with which journeys are performed, and the superior economy of this mode of conveyance as compared with that of coach-travelling. Places which were formerly distant a journey of two or three days and nights, can now be reached within a single period of daylight, and all the principal towns of England are brought within a journey of from four to six hours from the metropolis.

The introduction of the electric telegraph upon the principal lines of railway, and its connection, by means of submarine cables, with the countries of the continent (and even with those that lie beyond European limits), have exerted a powerful and beneficial influence upon the commercial and social relations of the country. By such means the prices of every market, the arrival of packets, and the signalling of ships, are now known immediately in all the great seats of trade; and intelligence of all events of importance, whether public or private, is transmitted with a certainty and rapidity which in any other age would have seemed extravagantly beyond the bounds of human attainment.

CHAPTER XIV.

ENGLISH GEOGRAPHY IN THE NINETEENTH CENTURY — THE
COUNTIES AND TOWNS.

THE present chapter is devoted to a brief description of the Counties and principal Cities and Towns of England and Wales. The counties are referred to in the order of the divisions enumerated in chapter XIII.

I. SOUTH MIDLAND DIVISION.

1. MIDDLESEX, the metropolitan county of Britain, has an area of 180,168 acres, or 282 square miles, and is smaller in size than any other English county, excepting Rutland. The river Thames divides Middlesex from the county of Surrey, to the southward. Its boundaries on the east and west are marked respectively by the streams of the Lea and the Colne, both of which join the Thames.

The general aspect of Middlesex presents a succession of gentle undulations, with extensive levels in some places, especially towards the extreme south-east of the county, and also in the direction of south-west. The most considerable tract of high ground lies immediately to the northward of London, and includes the adjoining hills of Hampstead and Highgate. The top of Highgate hill is 426 feet above the level of the Thames: the highest part of Hampstead Heath is 430 feet. These are connected, by lesser intervening elevations, with the hill upon which Harrow is situated, further to the west. The ground which extends northward from Highgate, in the direction of Barnet, on the border of Hertford, is also high: from the neighbourhood of Barnet, an elevated tract, about 400 feet above the Thames, stretches westward, past Elstree and Stanmore.

The *rivers* of Middlesex, besides the Thames (which forms the southern border of the county, throughout its extent, from Staines to Blackwall), are the Colne, the Brent, and the Lea. All of them join the Thames—the Colne immediately above Staines; the Brent at

MAP OF ENGLAND & WALES

showing the

Counties, principal Towns,

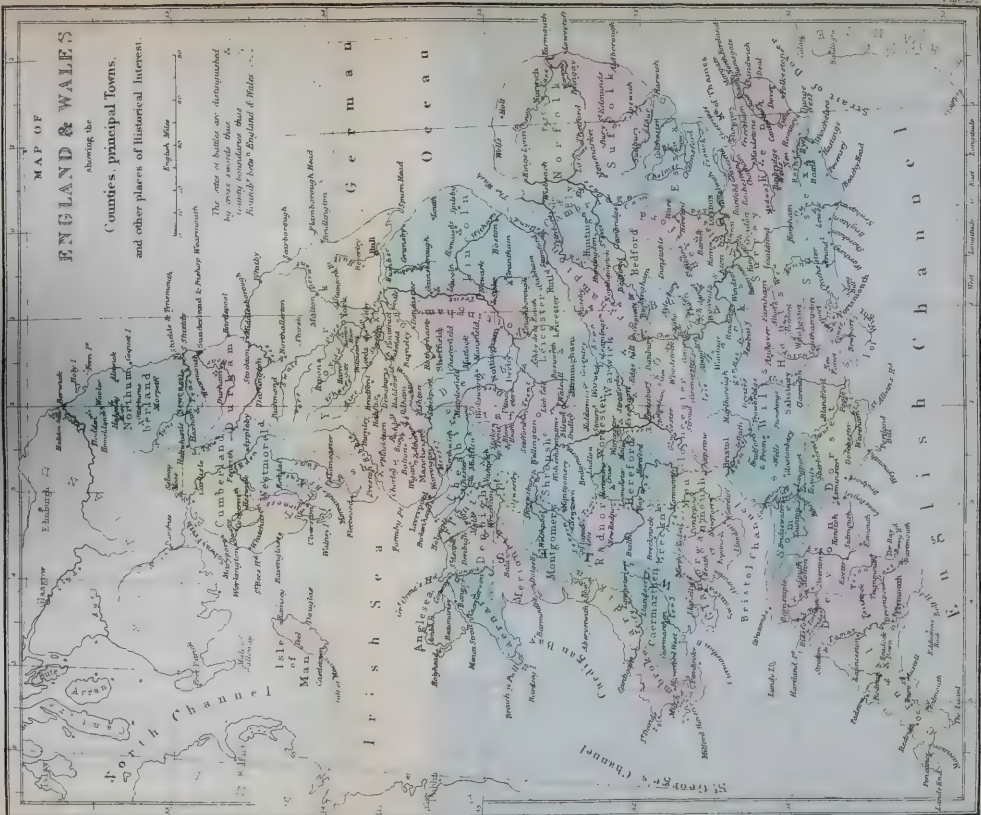
and other places of historical interest.

English Miles

The sites of battles are distinguished by cross swords, those of county boundaries that "divide" "England & Wales"

Irish Sea
German Ocean

English Channel



the town of Brentford; and the Lea at Blackwall, in the south-eastern quarter of the metropolis. The Thames, which has at London an average breadth of nearly a quarter of a mile, is a tidal stream as far up as the village of Teddington (a few miles above Richmond). A lock crosses the river at that place, and stays the further progress of the tide-water.

Geologically, the chief element in Middlesex is clay. Almost throughout the county, the soil, immediately below the surface, exhibits a succession of beds of clay, alternating with occasional sand and gravel. This formation is termed by geologists the "London clay." It extends over several of the adjacent counties, covering an extensive tract upon either side of the valley of the Thames.*

The "London clay" exhibits a deep mass of yellowish and blueish—or, in some localities, brown—clays, approaching sometimes to red in colour. It is often found to contain calcareous (or chalky) matter, and also contains calcareous nodules, which are commonly known as septaria, or cement-stone, and form an excellent cement. The variously coloured clays alternate with occasional beds of sandstone. The thickness of the London clay varies from 45 to 235 feet. Chalk everywhere underlies the beds of clay. In all the deeper wells that have been sunk within the metropolis, as well as in various other parts of the county, the clay has required to be bored through, and the underlying chalk reached, before a permanent supply of water has been obtained. The only portions of Middlesex in which clay strata are not found immediately below the surface are the high grounds about Highgate, Hampstead, and Hornsey, where a tract of limited area exhibits a gravelly and sandy formation, distinguished by geologists as the Bagshot sand.

Middlesex is not, strictly speaking, either an agricultural or a manufacturing county. The greater part of the land, beyond the precincts of the metropolis, is laid out in meadow or pasture, and a large proportion of the surface is occupied by the enclosed parks and grounds which belong to the private seats of the nobility and gentry. In the immediate vicinity of the metropolis, a considerable extent of ground is devoted to market-gardens and nurseries.

Middlesex is divided into 6 hundreds. The towns and other principal places of interest that fall within its limits, with their populations, are as follows:†

* See *ante*, p. 41.

† In this and the like Tables throughout the remainder of the volume, the towns, &c., are named in the order of the respective river-basins to which they belong. The name of the county-town is in all cases placed first on the list. Then follow the names of other towns that fall within the same area of drainage; these, similarly, are succeeded by the names

	Pop.		Pop.		Pop.
LONDON	2,803,034*	STAINES . .	2,577	Edgware . .	765
BRENTFORD .	8,870	UXBRIDGE .	3,236	Enfield . .	9,453
Hounslow .	3,500	Harrow . .	4,950		

London includes within its limits (to the northward of the Thames, and within the county of Middlesex), the city of London, properly so called, and the city of Westminster, with the metropolitan boroughs of Marylebone, Finsbury, and the Tower Hamlets. The city of London returns four members to the House of Commons: the city of Westminster, and the three boroughs above named, two each. The county of Middlesex also returns two members.†

London, the metropolis of the British empire, and the most important commercial city in the world, exceeds in population and extent any other city of modern times. The *city* of London, properly so called, is wholly to the north of the Thames, and embraces but a very small part of the immense area to which the name of London is now applied.

For a space of nearly eight miles from east to west, and of between five and six miles in the opposite direction, the streets, squares, warehouses, and various buildings of London, are continuous; and these more densely populated portions of the metropolis embrace an area of little less than fifty square miles, the greater part of which is to the northward of the Thames. But the extensive suburban districts embraced within the limits of the metropolis in the Local Government Act, and included in the Returns of the Registrar-General—compris-

of places belonging to the other river-basins throughout the county. Each tributary of a principal river-basin is treated in like manner.

In the case of such a county as Middlesex, the whole of which falls within a single river-basin (the Thames), the principle here adverted to is comparatively of little moment. But in the cases of many of the counties it becomes necessary to adopt some fixed rule in the order in which the towns are enumerated, and no other plan seems to possess an equal advantage to that here adopted.

The names distinguished by capital letters are, in all cases, those of market-towns: the names not in capitals are those of places added on account of some feature of historic or other interest belonging to them.

In the case of cities and parliamentary boroughs, the populations are from the census of 1861: in most other instances the populations are those of 1851, the returns for the later date not being yet published. In all cases where obtainable, the figures represent the *town* population, as distinguished from that of the *parish*.

* Including, that is, the whole of the metropolis, south as well as north of the Thames. The population of that portion of London which lies to the north of the Thames, and within Middlesex, is 2,030,142.

† The metropolitan boroughs of Southwark and Lambeth, to the south of the Thames, each return two members. The total number of members returned by the metropolis to the House of Commons is therefore 16.

ing Chelsea, Brompton, Kensington, Hampstead, Highgate, Stoke-Newington, &c., to the north of the Thames; with Deptford, Greenwich, Dulwich, Sydenham, Norwood, Brixton, Clapham, Battersea, &c., on the Surrey side of the river—add greatly to these dimensions. Including these, London extends over an area of more than a hundred and fifteen square miles. London and Westminster, long since connected by continuous buildings, were formerly distinct cities, separated by intervening fields and gardens.

That portion of London to which the name of “the City” is properly given—about 600 acres in extent—was formerly enclosed by a wall. Temple Bar is the only one remaining of the gates by which it was entered. Westminster adjoins the city to the westward, and extends in that direction along the banks of the Thames, and northward to the line of Oxford Street. Marylebone and Finsbury embrace the more northerly, and the Tower Hamlets the more eastwardly, portions of the metropolis.

In its general aspect London is distinguished by the air of business which everywhere pervades it. Its buildings have been constructed for purposes of utility rather than for ornament. Its streets (excepting in some of the older quarters of the town) are wide, and are almost uniformly well paved and lighted; its public buildings are plain and substantial, and its shops display the most wonderful variety of articles required for the habits and tastes of a numerous population. The docks, and the various edifices connected with the commerce of London, are situated in the eastern quarters of the metropolis, below London bridge. The dwellings of the wealthier classes, and the resorts of the aristocracy, belong to the “West-End” of London—the fashionable quarter of the metropolis.

The Thames is crossed, within the limits of the metropolis, by London, Southwark, Blackfriars, Waterloo, Westminster, Vauxhall, Chelsea, and Battersea bridges. Southwark, Vauxhall, and Chelsea bridges are constructed of cast-iron, the last-named consisting of a platform suspended from iron chains. The others are of stone, excepting Battersea bridge, which is a wooden structure. Waterloo bridge, which is the longest, forms a perfectly level roadway, and measures 1,326 feet (or rather more than a quarter of a mile) from shore to shore. The *port* of London is that portion of the Thames which is between London bridge and Blackwall, at the eastern limits of the county. Upon either side of this there are capacious docks for the reception of shipping.

Among the public buildings of London its churches are conspicuous. The two most important and interesting amongst them are St. Paul's Cathedral and Westminster Abbey, the former a magnificent specimen of Grecian, the latter of Gothic, architecture.

The royal palaces in the metropolis comprise St. James's and Buckingham Palace, the latter of which is the usual town residence of her Majesty Queen Victoria. The New Palace at Westminster comprehends the buildings required for the sitting of the Imperial Parliament. The whole forms a magnificent pile, in the Tudor style of architecture; it occupies the site of the former Houses of Parliament, destroyed by fire in 1834, between Westminster Abbey and the bank of the Thames, along which the principal frontage extends.

The parks of London add greatly to its general healthiness, and promote the enjoyment of its inhabitants. They comprise Hyde Park, with the adjoining area of Kensington Gardens; St. James's and the Green Parks, which are also adjacent spaces; the Regent's Park; Victoria Park; and Battersea Park (the last-named to the south of the Thames, and within Surrey).

Amongst the numerous public buildings of London deserving of special note are the Tower, the Bank, the Royal Exchange, the Mansion House, the East India House, the Mint, Guildhall, the General Post Office, the various government offices (including Somerset House, Whitehall, the Horse-guards, the Admiralty, and others), the National Gallery, the British Museum, King's and University Colleges, the Courts of Law, the prisons, hospitals, and a vast number of edifices devoted to the various purposes of business, science, literature, education, or amusement. The first-named of these—the Tower of London—surpasses them all in historical interest, and dates from an earlier period than any other.

The Tower of London is supposed to occupy the site of a fort erected in the time of the Romans. The oldest portion of the present fortress—the White Tower—was built in the reign of William the Conqueror. The walls which surround the entire area of the Tower enclose a space of twelve acres, within which are numerous buildings. Besides its original use as a fortress, the Tower was the frequent place of residence of the monarchs of England, down to the time of Elizabeth, and numerous events of interest have occurred within its walls. It has also been used as a prison for state-criminals, in which capacity, kings, queens, statesmen, warriors, divines, and philosophers, have alike been at various times immured within its walls—many of them to perish by the scaffold, or in other and more secret ways.

The British Museum is a spacious and handsome edifice, in the Grecian style of architecture. It embraces extensive and valuable collections of objects in natural history, and in Greek, Egyptian, and Assyrian antiquities; besides a magnificent library, which numbers above half a million volumes.

The University of London, which takes the first rank among the

educational institutions of the metropolis, was established so lately as 1839. It embraces University and King's Colleges, the former founded in 1829, the latter of two years later date, together with several affiliated Institutions. Among the numerous endowed schools of London the most important are Christ's Hospital (or the Blue-coat School, as it is commonly termed), St. Paul's, Merchant Taylors', the Charter House, Westminster, and the Military School at Chelsea Hospital.

Brentford, which consists principally of one long, irregular street, is historically noted for a battle in which Edmund Ironside defeated the Danes, with great slaughter, A.D. 1016; and for the skirmish in 1642, elsewhere referred to.* *Hounslow*, three miles west of Brentford, stands upon the edge of an extensive heath, on which there are large cavalry barracks.

Staines, in the extreme S.W. of the county, adjoins the north bank of the Thames, and occupies the site of a Roman station. It is conjectured to derive its name from an ancient stone which marks the limits of the jurisdiction possessed by the corporation of London. *Uxbridge*, chiefly noted for its extensive corn-market, lies on the left bank of the river Colne, and on the western border of the county. *Harrow*, situated on the high ground in the western interior of the county, derives importance from its endowed grammar-school, founded in the time of Queen Elizabeth.

2. HERTFORDSHIRE lies immediately north of Middlesex. Its shape is irregular, and its boundaries are throughout artificial, excepting on a part of its eastern side, where the course of the river Lea, and of its tributary, the Stort, mark the border between Hertford and Essex. The area of the county is 391,141 acres, or 611 square miles.

Hertfordshire exhibits no very prominent features of surface, but the ground is moderately elevated, and presents an undulating and varied aspect, for the most part well wooded. The highest grounds are towards the north and north-west border of the county, adjoining Cambridgeshire and Bedfordshire. *Kensworth Hill*, a chalk eminence (two miles S.E. of Dunstable, in the last named county), is 904 feet high. The upper portions of the Colne and Lea, with their numerous small tributary streams, water by far the greater part of the county.

The chief part of Hertfordshire belongs, geologically, to the chalk formation. A strip in the extreme south-east (reaching from the neighbourhood of the Lea southward to the Middlesex border)

* See *ante*, p. 233.

belongs to the clay basin of the metropolis. Nearly all the land is either arable or pasture, chiefly the former. The straw-plait manufacture is extensively pursued in many of the towns and villages in the western part of the county, but manufacturing industry is not generally characteristic of Hertfordshire. It is chiefly an agricultural county, and supports an extensive trade in corn and malt.

Hertfordshire is divided into 8 hundreds.* It contains the following towns :—

	Pop.		Pop.		Pop.
HERTFORD	15,625	BARNET .	2,380	BERKHAMP- .	
WARE .	4,880	ST. ALBANS	7,000	STEAD	3,390
HODDESDON.	1,850	WATFORD .	3,800	TRING .	3,210
HATFIELD .	3,860	RICKMANS-		STEVENAGE .	2,118
BISHOP STORT-		WORTH	4,850	HITCHIN .	5,258
FORD	5,280	HEMEL HEMP-		BALDOCK .	1,920
BUNTINGFORD	1,220	STEAD	7,070	ROYSTON .	2,061

Hertford returns two members to the House of Commons. The county returns three members.

The town of *Hertford* stands on the right bank of the river *Lea*, 18 miles N. of London. *Ware* is on the same river, three miles lower down its course, and to the north-eastward of the county town. At both Hertford and Ware, and also at *Bishop Stortford* (on the river *Lea*, a few miles below Ware), meal and malting are extensively carried on. The New River, which supplies a large portion of the metropolis with water, is drawn from the springs of Chadwell and Amwell, in the neighbourhood of Ware.

St. Albans, situated 12 miles to the W. by S. of Hertford, on the little stream of the *Ver* (an affluent of the *Colne*), is one of the most ancient sites in Britain. It represents the Roman *Verulamium*, but derives its modern name from *Alban*, the proto-martyr of Britain, who suffered death during the persecution of the Emperor *Diocletian*, A.D. 297. The extensive abbey—part of the site of which is occupied by the present abbey-church, had its origin in a monastery of Benedictine monks, established in honour of *St. Alban*, by *Offa*, the King of *Mercia*, towards the close of the 8th century. The battles

* One of these—that in which *St. Albans* is situated—bears the name of *Cashio*, which antiquaries connect with that of the British chieftain, *Cassivelaunus*. *Cashiobury Park*, near *Watford*, in this county, exhibits a like resemblance of name. See *ante*, p. 76.

fought at St. Albans, during the Wars of the Roses, have been elsewhere adverted to.* Lord Bacon resided near St. Albans, and derived his title of Viscount St. Albans thence. After undergoing considerable decline from its former importance, St. Albans has within recent years regained something of activity from the extension of the straw-plait trade.

Barnet, immediately adjacent to the Middlesex border, is chiefly important from its extensive cattle-fairs.† *Hitchin*, near the north-western border of the county, besides its extensive trade in corn and malt, has some share in the straw-plait and silk manufacture.

3. BUCKINGHAMSHIRE, a county of very irregular shape, has an area of 466,932 acres, or 730 square miles. The Thames, which flows along its southern border, divides Buckinghamshire from Berkshire, and the stream of the Colne divides it, on the south-east, from Middlesex. Elsewhere, the border-line of the county is artificial, except where small portions of the Thame, the Ouse, the Tove, and the Ouzel (the two latter, tributaries of the Ouse), mark its direction.

The high grounds of Buckinghamshire are chiefly in the south and east. The chalk range of the Chiltern Hills enters the county from Bedfordshire, and stretches across it, in the direction of N.E. and S.W., into Oxfordshire. The highest elevation is found in Ivinghoe Beacon (9 miles E. by N. of Aylesbury), which reaches 903 feet above the sea. The middle part of the county is occupied by the fertile vale of Aylesbury, to the northward of which is ground of moderate elevation, by which the affluents of the Thames are divided from those of the Ouse.

The principal streams by which Buckinghamshire is watered are the Thames (along the southern border); the Colne, with its affluents the Chess and the Misbourn; the Wick; the Thame; with the Ouse, and its affluent, the Ouzel — the two last-named, in the extreme north of the county. By far the larger part of the county is within the basin of the Thames.

The geology of Buckinghamshire is exceedingly varied. A small part of the county, in the extreme south, falls within the basin of the London clay. To this succeed the cretaceous series, chalk and greensand, which embrace all the more hilly portions of the county. The Vale of Aylesbury, and all the northwardly portion of the county, belong to the oolitic series. Chalk marl, which underlies the chalk

* Chap. ix. St. Albans is said to have been the scene of a frightful massacre in the insurrection of the Britons under Boadicea, A.D.

† See chap. ix. as to battle of Barnet.

hills farther south, forms a large component in the fertile soil of the vale of Aylesbury.

Buckinghamshire is chiefly an agricultural county, but some characteristic branches of manufacturing and handicraft industry employ the labours of its population in particular districts. These are, the straw-plait and lace manufacture, the boot and shoe trade, the paper manufacture (the two latter in the southern part of the county), and, amongst the beech-groves of the Chiltern Hills, the making of chairs and various wooden wares. The paper-mills of Buckinghamshire are found chiefly along the little stream of the Wick, which joins the Thames below Marlow. The town of Wycombe, on this stream, in the midst of the Buckinghamshire woods, has of late years become the centre of an extensive manufacture of chairs, made from the growth of the surrounding district, chiefly beech, elm, birch, and cherry. Chesham, towards the eastern border of the county, and within the limits of the same woody and hilly tract, has similarly become distinguished for its extensive and varied produce of wooden wares, such as trenchers, bowls, malt shovels, butchers' trays, hoops, and toys of several kinds.

Buckinghamshire is divided into 8 hundreds. It includes the following towns : —

	Pop.		Pop.		Pop.
AYLESBURY	. 6,081	COLNBROOK	. 1,050	NEWPORT PAG-	
WENDOVER	. 1,937	AMERSHAM	. 3,660	NEL	. 3,650
PRINCES RIS-		CHESHAM	. 6,090	OLNEY	. 2,329
BOROUGH	. 2,317	BUCKINGHAM	. 3,847	FENNY STRAT-	
WYCOMBE	. 7,180	WINSLOW	. 1,890	FORD	. 540
BEACONSFIELD	1,680	STONEY STRAT-		IVINGHOE	. 2,024
GREAT MARLOW	6,520	FORD	. 1,757		

The towns of Buckingham, Aylesbury,* High Wycombe, and Great Marlow, are parliamentary boroughs, each returning two members. The county returns three members.

Aylesbury, in the centre of the county, and its most considerable place, ranks as the county-town. Aylesbury lies in the midst of the rich valley watered by the Thame, a short distance S. of that river, and is a central market for the produce of the surrounding district. The village of Hampden,† near which John Hampden resided, and within the churchyard of which he was buried, is eight miles S. of

* The parliamentary borough of Aylesbury includes the entire hundred of that name.

† See chap. xii. p. 240.

Aylesbury. *Beaconsfield*, in a more southerly portion of the county, has a similar connection with Edmund Burke. The village of *Chalfont St. Giles*, a few miles to the eastward, derives interest from the fact of Milton having there commenced his "Paradise Regained." *Stoke Pogis*, further south, was the residence of the poet Gray, whose remains repose among "the rude forefathers of his hamlet," in the churchyard to which his well-known Elegy refers. On the extreme southern border of the county, and immediately adjoining Windsor, upon the opposite bank of the Thames, is *Eton*, with its ancient grammar-school, the foundation of Henry VI.

The town of *Buckingham*, which gives its name to the county, and was formerly the county-town, lies on the banks of the Ouse, only a few miles below the source of that stream. Stowe, the seat of the Dukes of Buckingham, long celebrated for its magnificent treasures of art, now dispersed, is about 3 miles to the N.W. of the town.

Stoney Stratford, and *Fenny Stratford*, are situated — the former on the Ouse, the latter on its tributary, the Ouzel. *Olney*, also on the Ouse, in the extreme north-east corner of the county, with some remains of the lace-making trade, derives its chief distinction from its connection with the poet Cowper, whose residence it was.

4. OXFORDSHIRE has an area of 472,887 acres, or 739 square miles. Its shape is irregular, but the river Thames forms a well-defined frontier through a considerable portion of its border-line to the southward. Elsewhere, the Thame runs for a short distance along the Oxfordshire border (on the side of Buckinghamshire), and the Ouse touches the north-eastern extremity of the county.

The surface of Oxfordshire exhibits considerable variety. The south-eastern division presents an agreeable alternation of high and low land. The chalk range of the Chiltern Hills occupies its most eastwardly portion in that direction, crossing the county from N.E. to S.W. and terminating on the banks of the Thames in the circular bend of the river between the villages of Goring and Mapledurham. The highest points of the Chilterns, within the county, are Nuffield Hill, 757 feet, and Nettlebed Hill, 820 feet — both lying a few miles to the southward of Watlington. Wychwood Forest, a wooded tract of some extent, is in the western portion of the county. Thence towards the Gloucestershire and Warwickshire borders the ground is generally high, and somewhat naked and uninviting in aspect. The Edge Hills,* on the north-western border, divide the county from

* See *ante*, p. 232.

Warwickshire: Broom Hill, immediately on the border line, and the highest eminence in this direction, is 836 feet.

With the exception of a small tract in the north-west, the drainage of Oxfordshire belongs entirely to the Thames basin. The chief rivers, besides the Thames itself, are the Windrush, the Evenlode, the Cherwell, and the Thame. The Stour, an affluent of the Warwickshire Avon, rises within the northern limits of Oxfordshire. A small affluent of the Ouse flows, in an eastwardly direction, through the north-eastern angle of the county, and the Ouse itself touches the border-line.

The geology of Oxfordshire exhibits, along a line drawn across the county from south-east to north-west, cretaceous strata (chalk and greensand), the various members of the oolitic group (Portland or upper oolite, coral rag and Oxford clay, and great oolite), and the higher division of the lias series. Iron-sand and ochre occur on the surface of some portions of the oolitic strata. The great oolite is extensively quarried in the neighbourhood of Burford.*

Oxfordshire is almost wholly an agricultural county. Wheat, barley, oats, turnips, and the various artificial grasses, form the principal crops. The blanket manufacture, still carried on at Witney to a moderate extent, that of woollen horse-cloths at Clipping-Norton, and the making of gloves at Woodstock, form the chief items upon which artisan labour is employed.

Oxfordshire is divided into 14 hundreds. It contains the following towns:—

	Pop.		Pop.		Pop.
OXFORD	27,561	CHIPPING-		THAME.	2,869
WOODSTOCK	7,820	NORTON	3,368	Dorchester	1,061
WITNEY	3,099	DEDDINGTON	2,178	HENLEY-ON-	
BAMPTON	2,780	BANBURY	8,715	THAMES	3,369
BURFORD	1,593	BICESTER	3,054	WATLINGTON	1,884

Oxford is a city, and returns two members to the House of Commons. The University of Oxford also returns two members, and the borough of Woodstock one member. The county returns three members.

Oxford, a cathedral city, and the capital of the county, is situated in the midst of verdant meadows, at the confluence of the Isis (or Thames), and the Cherwell, between the two streams. It has from an early period possessed the celebrity attaching to it as a seat of

* St. Paul's Cathedral is built of stone derived thence.

learning, one of the two chief English universities. The University consists of twenty colleges and five halls. Amongst its numerous establishments devoted to the service of letters, are the Bodleian library, the Theatre, the Ashmolean Museum, the Radcliffe Library and Observatory, the Taylor Institution, and the Clarendon printing-office.

Dorchester, long since declined to the rank of a mere village, situated 9 miles to the S.E. of Oxford, is perhaps of earlier origin than that city.* It was the seat of an early bishopric, established in the seventh century, and remained one of the most considerable sees in England, until its transference to Lincoln in 1087. *Chalgrove*, ten miles S.E. of Oxford, has been noticed elsewhere.†

Except its capital, none of the towns of Oxfordshire are of any considerable size. *Woodstock*, seven miles to the N.W. of Oxford, is about midway between the Cherwell and the Evenlode: closely adjacent to it are the residence and grounds of Blenheim, the magnificent gift of the nation to the first Duke of Marlborough, and the inheritance of his descendants. *Witney* and *Burford* both stand beside the stream of the Windrush. *Banbury*, in the northern part of the county, is on the Cherwell; *Deddington*, a short distance west of that river. *Watlington*, in the south-eastern division of the county, lies within the wooded tract which adjoins the western slopes of the Chiltern Hills.

5. NORTHAMPTONSHIRE has an area of 630,358 acres, or 985 square miles. Like most of the English counties, it is of irregular shape. From its great elongation as compared with its breadth, Northamptonshire borders upon an unusual number (no less than nine) of the other counties. The rivers Welland and Avon, flowing in opposite directions, form its border-line on the north-western side. Elsewhere, the Nen, the Ouse, and the Cherwell, flow along small portions of the frontier, the greater part of which, however, is artificial.

Northamptonshire has few considerable elevations. The highest grounds are in the west, about the sources of the Nen and its affluents in that direction. The most elevated, Arbury Hill, near Daventry, is 735 feet high. The ground declines gradually towards the north-east, and a small part of the county, at its eastern extremity, is within the district of the fens.‡ The generally high level of Northamptonshire, however, is evidenced in the fact of the numerous streams that originate within it, and flow thence into the

* See *ante*, p. 122, note.

† See chap. xii. p. 239.

‡ See chap. ii. p. 39.

adjacent counties, while the county itself receives no streams that have their origin beyond its borders. This circumstance is unexampled in the hydrography of the English counties.

The two most considerable rivers of Northamptonshire are the Welland and the Nen. The former is a border stream: the Nen has the chief part of its course within the county. Two rivulets — one of them rising near Arbury Hill (2 miles S.W. of Daventry), the other on the high grounds about Naseby — unite at Northampton, and form the main channel of the Nen. The Ise brook joins the Nen lower down, near Wellingborough. The source of the Upper Avon is within the north-western border of the county, near Naseby. So also is that of the Great Ouse, in the S.W., above Brackley. The Tow, or Tove, which passes Towcester, and joins the Ouse a short distance below the town of Stoney Stratford, belongs almost wholly to Northamptonshire.

Geologically, Northamptonshire belongs almost entirely to the lower oolite and lias series of rocks, principally the former. Limestone is everywhere obtained in abundance. Valuable beds of ironstone, extensively worked within a recent period, occur along the base of the oolite, upon the northern side of the Nen valley, over a very considerable extent of country. Red, or reddish-brown, ferruginous sands, intermixed with calcareous sandstone, form indeed the predominant characteristic of the Northamptonshire oolite, which is quarried in some places for building purposes.

Great part of Northamptonshire was in early times covered by the forests of Rockingham, Saleey, and Whittlebury, the first named of which once extended in an unbroken line from the northern borders of the county towards its central portion. These tracts are now for the most part enclosed, and only small portions remain in woodland. Northamptonshire is chiefly a grazing and dairy county, but the culture of wheat and other crops is also carried on to a considerable extent.

Northamptonshire is divided into 20 hundreds. It includes the following towns: —

	Pop.		Pop.		Pop.
NORTH-		HIGHAM		KINGSCLIFFE	1,407
AMPTON .	32,813	FERRERS .	1,140	KETTERING .	5,198
DAVENTRY .	4,124	THRAPSTON .	1,183	ROTHWELL .	2,391
WELLING-		OUNDE .	2,689	TOWCESTER .	2,665
BOROUGH .	5,297	PETER-		BRACKLEY .	2,277
		BOROUGH .	11,732	ROCKINGHAM	261

Northampton and Peterborough each return two members to the House of Commons. The county returns four members, two for each of its divisions (North and South).

The county town, *Northampton*, is a considerable place on the banks of the river Nen. It has an extensive manufacture of boots and shoes; stockings and lace are also made, and there is great trade in the produce of the surrounding district. A battle was fought near Northampton during the wars of the Roses. Naseby, the scene of a more important event of like description, has been elsewhere noticed.*

The town of *Daventry*, which stands upon high ground, eleven miles to the west of Northampton, has some manufacture of shoes, and also of silk stockings and whips. *Wellingborough*, between ten and eleven miles to the north-eastward of Northampton, shares in the boot and shoe trade, and also in the lace making by which the county is in general distinguished. *Kettering*, a few miles north of Wellingborough, is noted for its extensive manufacture of stays, as well as for wool-combing, boot and shoe making, and (to a small extent) silk weaving. *Oundle*, in the valley of the Nen, is only noteworthy from its proximity to the village of Fotheringhay ($3\frac{1}{2}$ miles to the northward), in the ancient castle of which — long since demolished — Mary Queen of Scots was beheaded, after passing there the concluding period of her long imprisonment.

Peterborough, within the north-eastern extremity of Northamptonshire, on the borders of the fen-country, stands on the north bank of the Nen. It contains a fine cathedral, of great antiquity, and has considerable trade in agricultural produce.

6. HUNTINGDONSHIRE, one of the smallest of the counties, has an area of 230,865 acres, or 361 square miles. It has the stream of the Nen upon its northern border (on the side of Northamptonshire), and the Ouse, which crosses the southern portion of the county, marks its frontier, for a short distance, in two places.

The north-eastern portion of Huntingdonshire—about a third part of its entire area—is within the level of the fens. A line drawn southward from Peterborough to the village of Sawtry (N. by W. of Huntingdon), and thence, in a south-easterly direction, past Warboys, to Erith, at the south-eastern extremity of the county, marks the limit of this level tract. The rest of the county is moderately undulated in surface, though nowhere rising to any conspicuous height.

The chief rivers are the Ouse and the Nen, with various small tributaries of each. The Ouse is within this county a considerable river, and navigable. A small stream (marked on maps as the

* See chap. ix. p. 171.; and chap. xii. p. 253.

Alconbury brook), which unites the waters of several feeders, joins the Ouse at the town of Huntingdon. The Nen now reaches the sea by an artificial channel, altogether different from that which its waters formerly took. The stream called the Old Nen flows (in an eastwardly direction) through the north-easterly levels, and, until their recent drainage, connected the waters of the extensive meres which formerly belonged to this tract. A straight cut, known as the Forty Foot drain — the work of a Dutch engineer (Vermuiden), in the earlier days of fen-drainage — connects the Old Nen with the channels that now belong to the outfall of the Ouse.*

The geology of Huntingdonshire exhibits chiefly the beds that belong to the middle oolite series — Oxford clay, and, in some localities, stone-brash, or forest marble. The levels of the north-east, like the fens elsewhere, are altogether distinct, and of recent origin.

Huntingdonshire is a thoroughly agricultural county. A large extent of land is under the plough, and the usual grains, with beans, rape, and clover, are extensively raised. The pastures are of considerable extent.

Huntingdonshire is divided into 4 hundreds. Its towns, all of small size, are : —

	Pop.		Pop.		Pop.
HUNTINGDON	3,816	ST. NEOTS .	3,157	RAMSEY .	2,641
ST. IVES .	3,572	KIMBOLTON .	1,653	YAXLEY .	1,455

Huntingdon is a parliamentary borough, returning two members to the House of Commons. The county returns two members.

The town of *Huntingdon* stands on the north bank of the Ouse, upon the line of the Great Northern Railway. It is distinguished chiefly as having been the birth-place of Oliver Cromwell. There are the remains of a Roman station at Godmanchester, in its immediate neighbourhood.

St. Ives, on the same river, below Huntingdon, has considerable cattle-markets and fairs. *St. Neots* stands higher up the Ouse, near the border of Bedfordshire. The village of *Stilton*, in the northern part of the county, gives its name to a well-known kind of cheese, which, however, is almost entirely made in the county of Leicester.

7. BEDFORDSHIRE has an area of 295,582 acres, or 462 square miles. Its limits are throughout marked by an artificial line, except-

* See *ante*, pp. 39, 40.

ing where the Ouse, and its tributary, the Ouzel, flow (the former in two different and distant localities), for short distances along the border.

Bedfordshire includes no ground of any considerable elevation. The surface, however, is throughout undulated and diversified. The highest elevations are in the south, where the chalk hills which form an extension of the Chiltern range stretch across the county, past Dunstable and Luton. The fertile valley of the Ouse, in the centre of which the town of Bedford is situated, occupies most of the middle and northerly portions of the county.

Nearly the whole of Bedfordshire belongs, hydrographically, to the basin of the Ouse, which river crosses the county, in an exceedingly winding course, from west to east. Its only considerable affluent within this county is the Ivel river, from the southward. One branch of the Ivel rises in Hertfordshire, near Baldock; another (and the longer) arm derives its waters from the tract between Ampt-hill and Dunstable, within the county. The Lea rises on the south-eastern slope of the chalk range, and flows southwardly, towards the Thames basin, to which it belongs.

The geological formations of Bedfordshire exhibit, in the south-east, chalk, to which succeed, to the north and north-west, the various strata that belong to the oolitic series — Oxford clay, and the kind of limestone known as cornbrash, occupying the largest spaces. The vale of Bedford consists principally of dark blue (or Oxford) clay. A belt of iron-sand crosses the county from S.W. to N.E., between the chalk and the oolitic strata. The limestone of the north-west division of the county is quarried.

Bedfordshire is altogether an agricultural county, and large crops of wheat, barley, and other produce are raised. A considerable amount of industry is devoted to the making of straw-plait, and lace-making still lingers amongst a large number of the inhabitants. The straw-plait trade (in which fine wheat-straw is chiefly employed, though other straws — foreign as well as English — are also used) assumes, indeed, the character of an important branch of industry. The town of Luton, on the river Lea, is its central seat. Luton has usurped, in this respect, the pre-eminence which formerly belonged to Dunstable.

Bedfordshire is divided into 9 hundreds. It includes the following towns: —

	Pop.		Pop.		Pop.
BEDFORD	. 13,412	POTTON	. 1,922	LEIGHTON	
HARROLD	. 1,083	SHEFFORD	. 889	BUZZARD.	4,465
BIGGLES-		AMPTHILL	. 1,961	DUNSTABLE	. 3,589
WADE	. 4,460	WOBURN	. 2,049	LUTON	. 10,618

Bedford is a parliamentary borough, returning two members. The county returns two members.

Bedford, the county town, and a place of great antiquity, stands on the north side of the river Ouse, which here becomes navigable. It has within recent years acquired additional importance and enlarged population from the value of its free schools, supported from the greatly increased produce of an endowment made by a wealthy citizen of London, upwards of three centuries since.

Most of the towns and villages of Bedfordshire — especially those in the southwardly portion of the county — share in the straw-plait trade. *Luton* owes to the extension of this branch of industry its great increase of population within the last twenty years. *Luton* is on the river *Lea*, from which (in ancient British, *Luh*) its name is said to be derived. *Dunstable*, near which are the remains of some ancient British earthworks, lies on the south-eastern slope of the chalk hills. *Leighton Buzzard*, further to the west, is on the stream of the Ouzel. *Woburn*, 6 miles N. by E. of *Leighton*, is chiefly noteworthy on account of its adjacent park and Abbey, the magnificent seat of the Dukes of Bedford.

8. CAMBRIDGESHIRE has an area of 523.861 acres, or 819 square miles. Its border-line is almost throughout artificial, excepting where the Ouse, on the west, and the lower course of the Nen, in the extreme north-east, mark, for short distances, the county boundary. The Lark, an affluent of the Ouse, flows along a small part of the eastern border, on the side of Suffolk. Cambridgeshire includes some tracts of high land (belonging to the chalk formation) in its southern division. These include, to the S.E. of Cambridge, the Gog Magog Hills, said to be the highest in the county, though their actual elevation is inconsiderable. But the greater part of Cambridgeshire is level. That portion of it which lies to the northward of the river Ouse belongs to the fen district, and is known as the Isle of Ely. Nearly the whole of this has been reclaimed by drainage, and now yields abundant crops.

The river Ouse crosses Cambridgeshire from west to east, receiving in its course the Cam, or Granta, upon which Cambridge stands. The Cam is joined, above Cambridge, by the stream of the Rea. The river Lark, which comes from the high grounds of Suffolk, joins the Ouse on its right bank, a few miles below Ely. The river Nen flows, by an artificial channel, through the northern part of the county.

The larger portion of Cambridgeshire — including nearly all that division of the county which is to the southward of the river Ouse

—belongs, geologically, to the chalk formation. The chalk rests, throughout extensive tracts, upon a blue clay, known as *galt*, beneath which, in order of position, is iron-sand, rising in some places to the surface. No minerals, however, are worked. All the northern part of the county belongs to the level of the fens.

The industry of Cambridgeshire is wholly agricultural. It is chiefly a grazing and dairy county; only a third of the land is arable, and the remainder is divided between pasture and waste lands. The valley through which the river *Cam* flows consists almost entirely of pasture and meadow grounds. A great deal of butter is made in this county.

Cambridgeshire is divided into 18 hundreds, three of which are within the Isle of Ely. It includes the following towns:—

	Pop.		Pop.		Pop.
CAMBRIDGE .	26,351	LINTON .	2,061	MARCH .	4,171
ELY . . .	6,176	ROYSTON .	2,061	WISBEACH .	9,275
NEWMARKET	3,356	CAXTON .	630		

Cambridge is a parliamentary borough, returning two members to the House of Commons. The University of Cambridge also returns two members. The county returns three members.

The town of *Cambridge*, the capital of the county, is a place of great antiquity, and closely adjoins the site of a Roman station (*Cam-boricum*). Its fame in modern times is chiefly derived from its University, which embraces sixteen colleges and one hall. The public buildings belonging to the University are the Senate-house, the University library and schools, the Pitt Press, the Fitzwilliam Museum, the Anatomical Museum, and the Observatory. Cambridge possesses considerable local trade, and is a great market for corn and provisions of various kinds.

Ely is an ancient cathedral city, situated on the left bank of the Ouse. *Wisbeach*, in the northern part of the county, and on the present channel of the *Nen*, lies in the heart of the fens, a large portion of the agricultural produce of which it exports. *Newmarket*, on the border of Suffolk, is celebrated for the well-known racing sports of which it is the seat. *Royston*, on the extreme southern border of the county, is partly within Hertfordshire.

II. NORTH MIDLAND DIVISION.

9. LEICESTERSHIRE has an area of 514,164 acres, or 804 square miles. The river *Trent*, and its tributary, the *Soar*, flow along a

portion of its border to the northward. In the south-east, the streams of the Upper Avon, the Welland, and the Eye (an affluent of the latter), divide it in part from the adjacent counties. The Anker, an affluent of the Tame, skirts for a short distance the border of the county, in the south-west.

The surface of Leicestershire, in general of only moderate elevation, exhibits everywhere an attractive variety of hill and dale. The highest ground is in the north-western division of the county, within the hilly and somewhat rugged tract known as Charnwood Forest. Bardon Hill, in this district (between six and seven miles S.E. of Ashby-de-la-Zouch), is 853 feet high, and commands from its summit an extended prospect over the adjacent counties. In general, however, the higher grounds of Leicestershire are neither too elevated, nor too steep, for the purposes of cultivation, and the vales are broad and open, with gently swelling undulations upon either side.

The county is chiefly within the basin of the Trent. The Soar—one of the chief tributaries of that river—and its affluent, the Wreak, water the larger portion of its extent. Besides those streams, Leicestershire has, either within its limits or on its borders, portions of the rivers Anker, the Sence (an affluent of the Anker), the Mease, the Devon—all of them belonging to the Trent basin; with the Welland, the Eye, the Avon, and the Swift. The last-named stream is a small affluent of the Avon, which flows past Lutterworth. As in the case of Northamptonshire, most of the running waters of Leicestershire flow externally from the county, and ultimately reach different seas.

The geology of Leicestershire exhibits great variety. All the eastern and south-eastern portion of the county is occupied by limestones of the lias period. These are succeeded, in the centre and west, by red marl and new red sandstone (*trias*). Two tracts, within the westerly portion of the county, display conspicuous exceptions to this general classification; these are, the coal-field in the neighbourhood of Ashby-de-la-Zouch, and the adjacent district of Charnwood Forest. The last-named tract is composed of rocks belonging to the transition period—as sienite, greenstone, and slate. Some of the rocks within it are quarried as granite, and coarse slate for roofing and other purposes is derived thence. Stone for building is obtained from the limestone in several parts of the county.

The Leicestershire coal-field, which is worked to a considerable extent, is physically divisible (says Mr. Hull) * into three districts—that of Moira, on the west; Ashby-de-la-Zouch, in the centre; and

* The Coal-fields of Great Britain, by E. Hull.

Coleorton, in the east. The central district is formed by the lower coal-measures, without workable coals. But the "main coal" of the Moira beds is from 12 to 14 feet thick, and that of Coleorton from 6 to 8 feet.

Leicestershire, however, is principally a grazing county, more than half the land being under pasturage, and most of the rest under tillage with green crops and clover, for the feeding and fattening of cattle. Sheep are very largely bred. In many parts of the county cheese is made in great quantities.

Leicestershire is divided into 6 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
LEICESTER	68,052	CASTLE DON-		MARKE	
MOUNT		INGTON	2,729	BOSWORTH	2,449
SOREL	795	MELTON		HINCKLEY	7,071
LOUGH-		MOWBRAY	4,391	LUTTERWORTH	2,446
BOROUGH	10,900	ASHBY-DE-		MARKET	
KEGWORTH	1,854	LA-ZOUCH	6,230	HARBOROUGH	2,325

Leicester is a parliamentary borough, returning two members to the House of Commons. The county returns four members, two for each of its divisions (North and South).

The town of *Leicester*, the capital of the county, is a place of great antiquity, dating back to the Roman period. It stands on the east bank of the river Soar, and has extensive communication with other parts of the kingdom both by railways and canals. Leicester is chiefly distinguished as a manufacturing town. The making of woollen stockings is the branch of industry principally pursued: cotton hose are made in less quantity. Worsted and cotton thread, and worsted gloves, are also manufactured to a considerable extent.

Loughborough, ten miles north by west of Leicester, has also extensive hosiery and lace manufactures, together with considerable trade in coals. *Ashby-de-la-Zouch*, a town of early origin, and of interest in connection with several occurrences in English history, is beside the stream of the Mease, towards the north-west border of the county. *Market-Bosworth*, some miles further south, has been noticed elsewhere (p. 177). *Melton Mowbray*, in the eastern division of the county, is a place of great resort for those addicted to field-sports, which are extensively carried on in this county. Belvoir Castle, the magnificent seat of the dukes of Rutland, is close to the north-eastern border of the county. The high ground on which it stands overlooks, to the north and west, the fertile Vale of Belvoir, which is principally within Nottinghamshire.

10. **RUTLAND**, the smallest of the English counties, has an area of only 95,805 acres, or 150 square miles. Upon its south-eastern (and longest) side, the course of the river Welland marks its border. The river Eye, an affluent of the Welland, flows along part of its western border.

Rutland has no ground of any marked elevation, but the whole of its surface is agreeably diversified. The fertile Vale of Catmoss includes a considerable portion of the county, towards its western limits. Besides the Welland, which flows along its south-eastern border, the rivers are the Wash, or Guash, the Chater, and the Eye; together with the upper portion of the Wreak (an affluent of the Soar), which rises within the north-western border of the county, and passes thence into Leicestershire. The Wash, the Chater, and the Eye, all join the Welland, to which nearly the whole drainage of Rutland belongs.

Rutland is included, geologically, within the lower oolite and lias areas. Oolitic strata cover most of the north-eastern division of the county, and reappear towards its more southwardly limits. The valley of the Guash falls within the lias tract. Good building-stone is quarried near Ketton (about 3 miles to the westward of Stamford), just within the border of the oolitic area.

Rutland is a thoroughly agricultural county. The attention of its farmers is given more to pasturage than to tillage. The lias clays form excellent grazing grounds, and the meadow lands in general are exceedingly rich. There were formerly extensive woods within the county, but these have mostly disappeared, excepting within the limits of ornamental plantations.

Rutland is divided into 5 hundreds. Its only towns are:—

OAKHAM	. . .	Pop. 3,031	UPPINGHAM.	. . .	Pop. 2,068
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The county of Rutland returns two members to parliament. There is no parliamentary borough within its limits.

Oakham, which ranks as the county-town, is within the vale of Catmoss, not far from the western border of the county. Two miles to the N.E. are the magnificent mansion and grounds of Burley House, the residence, in the seventeenth century, of the Duke of Buckingham, by whom both James I. and Charles I. were frequently entertained there. Burley was taken by the Parliamentary troops in 1645. *Uppingham* is between 6 and 7 miles to the southward of Oakham. The village of Empingham (or Erpingham), the scene of

a battle fought during the Wars of the Roses, has been elsewhere referred to.*

11. NOTTINGHAMSHIRE has an area of 526,076 acres, or 822 square miles. Portions of its boundary are marked, on the north-east and north, by the courses of the rivers Trent and Idle; in the south-west, the Soar and the Erewash, both of them affluents of the Trent, flow along its limits.

Though nowhere rising to any great elevation, the surface of Nottinghamshire is agreeably diversified almost throughout. The only exception occurs in the extreme north, which is quite flat. In that portion of the county which lies to the west of the Trent, the higher grounds are found principally about Sherwood Forest, in the neighbourhood of Mansfield. Sutton-in-Ashfield Hill, a short distance S.W. of Mansfield, is about 600 feet high. In the extreme south of the county, the tract of country lying between the course of the Trent and the Leicestershire border—known as the Wolds—exhibits great variety of surface. It is, upon a scale of moderate extent, a region of upland moors and pastures, furrowed by picturesque and fertile dales. The broad and open valley of the Trent, bounded by a gentle rise of ground upon either side, occupies, however, the larger portion of the county. The Vale of Belvoir, a fertile and beautiful tract, is in the extreme south-east, adjoining (and partly within) the Leicestershire border.

All the rivers of Nottinghamshire belong to the Trent basin. The Trent flows through the county from S.W. to N.E., and is navigable throughout—for vessels of 200 tons as high up as Gainsborough, and for river-craft through the rest of its course within Nottinghamshire. The other rivers are the Idle, with its affluents, the Maun, Rainworth, Meden, Poulter, and Ryton—all of them having a general course to the north-eastward. The junction of the Maun and the Poulter, at West Drayton (a few miles to the S. of East Retford) forms the main stream of the Idle, which skirts the marshy tract in the extreme N.E. of the county, before it falls into the Trent. The Erewash, the Lene, and the Dover Beck, flow south-eastwardly into the Trent. Besides these are the Devon, and its affluent, the Smite, which joins the Trent on its right or southern bank, immediately above Newark.

Geologically, Nottinghamshire is occupied principally by the lias formation within its eastern and southern divisions. To this succeeds,

* Chap. ix. p. 175.

within the valley of the Trent and the adjacent higher grounds on the west, new red sandstone. Gypsum occurs plentifully in this latter formation, and numerous caverns, some of them of great antiquity, have been excavated in the soft beds of sandstone of which it is for the most part composed. A quartzose gravel, which underlies the sandstone, and forms a soft pudding-stone, is quarried to some extent. This gravel is the prevailing stratum throughout Sherwood Forest. Along the south-western portion of the county (to the west of a line drawn from Mansfield to Nottingham) there is a narrow belt of magnesian limestone. Immediately adjoining this, upon its western side, is a portion of the South Yorkshire coal-field. The portion of Nottinghamshire over which the coal-field extends is only of small area, but several pits of good coal are worked within the county.

Nottinghamshire is chiefly an agricultural county, and both arable and dairy husbandry are extensively pursued. There are, however, extensive manufactures within the county, principally in the town of Nottingham, and the district extending thence westward to the Derbyshire border, a tract which includes several populous villages, some of them devoted to mining industry. Nottinghamshire, it will be noted, ranks high in the scale of counties arranged according to comparative density of population.*

The county is divided into 6 wapentakes. Its towns are: —

	Pop.		Pop.		Pop.
NOTTINGHAM	74,531	TUXFORD	1,211	EAST RET-	
BINGHAM	2,054	MANSFIELD	10,627	FORD	2,943
SOUTHWELL	3,516	OLLERTON	777	WORKSOP	7,215
NEWARK	11,562				

The towns of Nottingham and Newark each return two members to the House of Commons. The parliamentary borough of East Retford, which comprehends the entire wapentake of Bassetlaw, also returns two members. The county returns four members, two for each division (North and South).

Nottingham, the capital of the county, is a large and populous place, situated about three-quarters of a mile from the north bank of the Trent. It possesses a fine castle, built on the site of a more ancient fortress, the scene of many interesting events in English history.† The staple business of Nottingham is stocking-weaving —

* See Table in p. 273.

† It was in the castle of Nottingham that the "gentle Mortimer" was seized by Edward III., in 1330. The royal standard was first displayed

chiefly cotton. There are numerous spinning-mills in the neighbourhood. The making of lace by machinery is also very extensively carried on.

Newark, lower down the valley of the Trent, upon an island formed in the course of the river, has great trade in corn, malt, flour, and other agricultural produce. *Southwell*, six miles west of Newark, is distinguished by its fine collegiate church, of early Norman origin.

Mansfield, in the western part of the county (thirteen miles north of Nottingham, and on the western border of Sherwood Forest), is an ancient town, rendered flourishing and populous by its hosiery, cotton, and lace manufactures, as well as by considerable trade in corn, malt, &c. *Newstead Abbey*, the former inheritance of the Byron family, is 5 miles south of Mansfield. The town of *Worksop*, on the northern border of the forest tract, adjoins the S. bank of the *Ryton*: in its neighbourhood are *Clumber Park* and *Welbeck Abbey*, the respective seats of the dukes of Newcastle and Portland.

12. DERBYSHIRE has an area of 658,803 acres, or 1,029 square miles. Its border-line, on the north-west, is defined by the courses of the rivers *Etherow* and *Goyt* (affluents of the *Mersey*); on the west and south-west, by the *Dove* and a small portion of the *Trent*. The *Erewash* flows along part of its eastern border. Both the *Rother* and the *Sheaf* mark portions of its northern boundary, but the border-line in that direction (on the side of *Yorkshire*) is for the most part coincident with the high ground which divides the basins of the *Derwent* and the *Yorkshire Don*.

Derbyshire includes hilly tracts of great extent, as well as other districts of an opposite description. The extreme north-western portion of the county is known by the name of the *High Peak*, and is a region of black, barren, round-backed hills and extensive moors, intersected by deep valleys. *Kinderscout*, the highest portion of the Peak, reaches 1981 feet above the sea. *Lords Seat* (west of *Castleton*) is 1816 feet. *Axe Edge Hill* (1809 feet), at the source of the *Dove*, lies near the point of junction between the three counties of *Derby*, *Chester*, and *Stafford*, and partly within the last-named county. The middle part of the county, a hilly but less elevated tract, is distinguished as the *Low Peak*. Both districts contain great mineral wealth, and exhibit much beautiful scenery. The southern portion of Derbyshire, towards the banks of the *Trent*, presents a level surface, diversified by slight undulations.

at Nottingham, at the commencement of the civil war. The siege of Newark, long successfully held by the Royalists, fills an important place in the records of the same period.

The river Trent crosses the southern part of Derbyshire, from west to east. Almost the entire drainage of the county belongs to this river. The Dove and the Erewash, both of which join the Trent, are border streams. The Derwent flows through the middle of the county, from north to south, and enters the Trent some miles below the town of Derby. The Wye, a small river within the tract of the High Peak, joins the Derwent. The Sheaf and Rother, in the north-eastern part of the county, flow northward, and join the river Don, which belongs to the basin of the Yorkshire Ouse.

The geology of Derbyshire is highly varied and interesting. The south-westerly portion of the county—embracing the tract lying to the southward of a line drawn from Ashbourne in a direction of E. by S., and passing a little to the N. of Derby—is occupied by the red marl, or new red sandstone formation, with strata of magnesian limestone rising in occasional localities to the surface. All the rest of the county is within the carboniferous area—coal-measures, millstone-grit, and mountain or carboniferous limestone, succeeding one another in regular order across the breadth of the county, in the direction of east and west.

The Derbyshire coal-beds form part of the extensive coal-field which stretches from the counties of Derby and Nottingham into the West Riding of Yorkshire.* The Derbyshire collieries are most numerous in the neighbourhood of Chesterfield and Alfreton, and in the south-eastern district of the county in general, along the line of the line of the Erewash river and canal. There are valuable and productive beds of iron-stone within the limits of the coal-field, which feed numerous furnaces, many of them within this county.

The millstone-grit of Derbyshire occupies a considerable portion of the middle belt of the county, from the town of Derby northward, and skirts the limestone tract of the High Peak upon its northern and western sides. The hills which it forms usually present bold escarpments, crowned by rude piles of crags.

The carboniferous limestone—enclosed on three sides by the millstone-grit and red marl formations—covers most of the western and north-western divisions of the county. It includes the picturesque scenery of the High Peak, distinguished especially by the numerous cavernous formations that occur within the limestone strata. These caverns appear to have been chiefly excavated by the agency of water. The most remarkable is that known as the Devil's Cave, or Peak's Hole, near Castleton. This exhibits an extensive succession

* See pp. 37, 63.

of cavernous chambers, at the furthest accessible extremity of which the rocks close down upon the stream of water that flows within, so as to preclude further advance. The water here found flowing within the bowels of the earth is engulfed at a spot about three miles distant from Castleton, where it suddenly disappears from the light of day, re-appearing at the entrance of the cavern. After heavy rains, the stream becomes so much swelled as to render it impossible to reach the further part of the cavern. Similar chasms and grottoes, on a less extensive scale, occur in other parts of the Peak district.

The outcrop of the carboniferous limestone forms the lead district of Derbyshire. Besides lead, ores of zinc, iron, manganese, and copper, also occur. The carboniferous limestone yields the beautiful black marbles for which Derbyshire is celebrated, and also the well-known fluor spar. Chert, or china-stone, which is extensively used in the Staffordshire potteries, is derived from the same region. The numerous mineral waters—the most celebrated of them the warm springs of Matlock and Buxton—are a distinguishing feature of the county.

Derbyshire, though chiefly distinguished for its mining and manufacturing industry, is also, to a large extent, an agricultural county. A large proportion of the land is pasture. Cheese is extensively made.

Derbyshire is divided into 6 hundreds.* Its towns and chief manufacturing villages are:—

	Pop.		Pop.		Pop.
DERBY .	43,091	TIDESWELL .	3,411	DRONFIELD .	5,231
BELPER .	10,082	CASTLETON .	1,333	CHAPEL-EN-LE-	
WIRKSWORTH .	2,632	BUXTON .	1,235	FRITH .	3,214
CROMFORD .	1,190	ASHBOURNE .	5,087	New Mills .	4,366
MATLOCK .	4,010	Ilkeston .	6,122	GLOSSOP .	28,625
WINSTER .	928	ALFRETON .	8,326	Hayfield .	1,757
BAKEWELL .	2,217	CHESTERFIELD .	9,835		

Derby is a parliamentary borough, returning two members. The county returns four members, two for each of its divisions (North and South).

Derby, the county-town, is situated on the western bank of the river Derwent, a few miles above its junction with the Trent. The silk manufacture is carried on to a great extent in this town, as also is

* The divisions of this county were anciently known as wapentakes. One of the number—Wirksworth—still bears that appellation.

the manufacture of lace and hosiery. Derby has increased greatly in size and population of recent years, owing in a great measure to its having become the centre of an extensive system of railway communication.

Wirksworth, in the middle of the county (twelve miles W.N.W. of Derby), lies within the hilly tract, and is in the midst of lead-mines and manufactures of various descriptions. *Cromford*, two miles distant, has extensive cotton-works. The village of *Matlock*, in its neighbourhood, is romantically situated on the banks of the Derwent, and is resorted to for its mineral waters. Some miles higher up the valley of the Derwent is Chatsworth, the magnificent seat of the Duke of Devonshire. *Buxton*, a market-town in the north-western part of the county, derives celebrity from its hot springs. *Castleton*, situated in the heart of the High Peak, is visited for the sake of the caverns in its vicinity.

Chesterfield, a considerable town in the northern portion of the county, stands on the west bank of the river Rother, and has some cotton and woollen manufactures, with iron-works and potteries. *Glossop*, near the north-western border, is an important seat of the cotton manufacture. The town, which is spread over an extensive area, stands upon high ground, which rises above the neighbouring valley of the Etherow river.

13. CHESHIRE has an area of 707,078 acres, or 1,105 square miles. The larger part of its border-line is marked by natural features—the rivers Goyt, Etherow, and Tame, in the east and north-east; the Mersey on the north; the Irish Sea, the estuary of the Mersey, and a portion of the lower course of that river, on the west. The river Dane flows along part of its south-eastern border, on the side of Staffordshire. The shape of the county is irregular; the long, narrow peninsula which stretches out to the N.W., between the estuaries of the Dee and the Mersey, forming one of the most prominent characteristics of its outline. An inland tract, of somewhat similar shape, but still narrower, occupies its north-eastern extremity, intervening between Lancashire and Yorkshire on the one side, and Derbyshire on the other.

The greater part of Cheshire has an undulating surface. But exceptions to its general aspect occur in some localities. One of these is in the north-eastern extension of the county, where the ground rises to a considerable height as the Yorkshire border is approached. The tract belongs, physically, to the moorlands of the Pennine chain. Some tracts of high ground also occur towards the eastern border of the county, further south, principally in the neigh-

bourhood of Macclesfield. Among these is Alderley Edge (3 miles N.W. of Macclesfield), a high mass which rises abruptly out of the plain. The tract known as Macclesfield Forest (E. of the town of that name) is also elevated. Southward of Congleton, again, the Cheshire and Staffordshire border is marked by the range of Mole Cop (or Mow Cop) Hill.

The western half of the county is generally flat, with the exception of the tracts occupied by Delamere Forest and (further south) the Peckforton Hills. The highest point of Delamere Forest is 596 feet above the sea.

The principal rivers of Cheshire are the Mersey, the Weaver, and the Dee. The whole drainage of the county passes to the western sea. The Mersey is formed by the junction of the Goyt and the Etherow, the latter derived from the high grounds of the Pennine chain: at Stockport, the Mersey is joined by the Tame, from the northward. Some distance below, the Mersey receives on its left bank the river Bollin, and, still lower down, the Weaver. The last-named river has its entire course within Cheshire: it is joined, at Northwich, by the river Dane, and a little below, by the Peover, both of them flowing from the eastward. The Dee is a Welsh rather than an English river, and only a small portion of it is within Cheshire. The straight channel in which, below the city of Chester, the Dee now flows, is an artificial cut.

Cheshire contains several extensive sheets of water, known as *meres*. The largest of these, Comber-mere (in the extreme S., near the Shropshire border), is three-quarters of a mile long. Several of the meres are within the area of Delamere Forest.

Geologically, Cheshire belongs almost entirely to the new red sandstone formation. The South Lancashire coal-field penetrates the eastern part of the county, stretching in a narrow belt southward from the neighbourhood of Stockport, parallel to the Derbyshire border. Good coal is worked within this tract. There is coal also in the neighbourhood of Parkgate, on the eastern side of the estuary of the Dee, within the peninsula of Wirral: these pits belong to an extension of the Flintshire coal-field, the coal-beds of which underlie the new red sandstone of the Cheshire plain.

The most important mineral productions of Cheshire are fossil or rock-salt, and coal. The rock-salt is obtained near the banks of the Weaver and its tributary streams. It was discovered near Northwich, in 1670, in searching for coal, and has since been found very abundantly in that neighbourhood. There are salt-works also at Nantwich, Middlewich, and Winsford. The salt is of two kinds, the one white and transparent, the other of a reddish brown. The former has been found by analysis to be an almost pure muriate of

soda; the latter contains a small portion of oxide of iron, from which its colour is derived.

The principal salt-works are in the neighbourhood of Northwich, where there are mines, in addition to brine-springs. The rock-salt is found from 28 to 48 yards beneath the surface of the earth. The first stratum is from 15 to 25 yards in thickness, extremely solid and hard, and resembling brown sugar-candy. Many tons at a time are loosened by blasting with gunpowder. The second stratum is of hard stone, from 25 to 35 yards in thickness. The salt lies beneath the stratum, in a bed above 40 yards thick, generally quite white and clear as crystal. The external surface above these strata is of whitish clay and gypsum. The quantity of salt annually derived from Northwich and other places within the Weaver valley is upwards of a million tons. The larger portion of this is rock-salt, but many thousand tons are annually made from the brine-springs, which are from 20 to 40 yards in depth.

Both copper and lead are among the mineral produce of the county. They are found at Alderly Edge and the tract of the Peckforton Hills: cobalt is also worked in the former locality. The sandstone of Cheshire is quarried in several places for building purposes.

Cheshire is both a manufacturing and an agricultural county. It shares largely in the cotton manufacture of the adjacent county, Lancashire. Particular portions of the county are very thickly populated, and as a whole it ranks eighth in order of populousness amongst the English counties. It is, however, chiefly along the Lancashire border, and within an area not far removed from Manchester, that artisan industry is found on an extensive scale. The larger portion of Cheshire is agricultural. The soil and climate are peculiarly adapted to the growth of the various grasses, and it is hence rather a pastoral than an arable county. The dairy is a chief object of attention to the farmer, and the county has long been noted for its cheese, large quantities of which are exported.

Cheshire is divided into 7 hundreds. The towns are:—

	Pop.		Pop.		Pop.
CHESTER .	31,101	ALTRINCHAM	4,488	MIDDLEWICH	4,498
GREAT NES-		STOCKPORT .	54,681	CONGLETON .	10,520
TON .	1,524	MACCLESFIELD	36,095	SANDBACH .	2,752
BIRKENHEAD	24,285	KNUTSFORD	4,375	Crewe .	4,491
FRODSHAM .	6,382	NORTHWICH	1,377	TARPORLEY .	2,632
RUNCORN .	8,049	NANTWICH .	5,871	MALPAS .	8,710

The city of Chester, and the boroughs of Stockport and Macclesfield, each return two members to the House of Commons. Birken-

head returns one member. The county returns four members, two for each of its divisions (North and South).

Chester, the capital of the county, is an ancient cathedral city, situated on the river Dee. It was an important Roman station, and displays many interesting evidences of its early origin. Chester has considerable trade with the adjacent districts of North Wales, as well as with the neighbouring northern and midland counties. *Birkenhead*, on the estuary of the Mersey, opposite to Liverpool, is in this county, and although a place of recent origin, already shares largely in the commerce of its gigantic neighbour. *Runcorn*, on the S. bank of the Mersey, near the head of its estuary (11 miles S.E. of Liverpool), has grown within a modern date into a considerable trading and manufacturing town.

Stockport, in the north-eastern part of the county, at the junction of the Tame and the Mersey, is almost wholly devoted to the various branches of the cotton manufacture. *Macclesfield*, in the east part of Cheshire (on the river Bollin, an affluent of the Weaver), is a considerable manufacturing town, and the centre of a populous district. Both silk and cotton works are carried on to a large extent, and the making of silk handkerchiefs is an important branch of industry; there are also copper and brass works.

Northwich, *Nantwich*, and *Middlewich*, all within the basin of the Weaver, indicate in their names the existence of the salt-works for which they were early famous, those of Northwich dating back to the times of Roman dominion. Northwich stands at the confluence of the river Dane with the Weaver. Nantwich, elsewhere referred to (p. 150), is on the right bank of the Weaver, 14 miles further south. Middlewich is six miles S.E. of Northwich, a short distance from the left bank of the Dane.

III. WEST MIDLAND DIVISION.

14. STAFFORDSHIRE has an area of 728,468 acres, or 1,138 square miles. Its limits are for the most part marked by an artificial line, excepting to the eastward, where the river Dove, through its whole length, divides the county from Derbyshire. The Trent, and another of its affluents, the Tame, also mark portions of the Staffordshire border. The south-western extremity of the county stretches across the course of the Severn.

The aspect of Staffordshire varies considerably in different parts. In the middle and south-west it is generally level, or interspersed with eminences of inconsiderable height. In the south and south-east are some ranges of high ground which impart variety to the scenery. But

the tract most distinguished by striking features of surface is that which embraces the high moorlands in the northern portion of the county. The Weaver Hills, within this tract, reach 1,154 feet. Axe Edge Hill (the principal summit of which is in Derbyshire) is partly within the northernmost extremity of this county. The summit of Mole Cop, on the Staffordshire and Cheshire border, is 1091 feet. The Staffordshire moorlands constitute a bleak and dreary district, upon which the snow lies longer, and more rain falls, than in any other part of the county.

The principal river of Staffordshire is the Trent, which has its source within the county, towards its northern extremity. A short distance below its origin, the river passes through the Duke of Sutherland's grounds at Trentham, where it forms a considerable sheet of water. The river Dove, one of the principal affluents of the Trent (forming throughout the boundary between the counties of Stafford and Derby), flows through the beautiful valley of Dovedale. The rivers Tame, Blyth, Sow, and Penk—all belonging either entirely or in part to this county—are also tributaries of the Trent. The Stour, which is partly within the southward extremity of the county, passes thence into Worcestershire, before it falls into the Severn.

The larger part of Staffordshire belongs, geologically, to the new red sandstone formation. The county includes, besides, two distinct coal-fields, one in the extreme north, the other towards its southern limits. The North Staffordshire coal-field has the shape of a triangle, with its apex to the north, at the base of Congleton Edge. The eastern side is composed of millstone grit, and the westerly of new red sandstone. Along the south the coal-measures are overlaid by Permian marls and sandstones, and these strata run far up into the heart of the coal-field, by Newcastle-under-Lyme.* The coal-bands of this field are of great thickness, and easily workable. The North Staffordshire coal-field includes the great seat of the earthenware manufacture.

The South Staffordshire coal-field extends from the Clent Hills (within the Worcestershire border) on the south, to Brereton, near Rugeley, on the north, a distance of 21 miles, with an average breadth of 7 miles. This district is one of extreme productiveness in coal and iron. It is, indeed, the great seat of the hardware manufacture, and the aspect of the country supplies abundant evidence of the pursuits in which its population are engaged. The effects of mining operations on a gigantic scale are everywhere manifest: the whole tract is thickly studded with steam-engines, with blast-furnaces, and with railways, and presents, in the vast unsightly mounds of rubbish scattered in all directions upon the surface, the evident marks of its

* Hull: the Coal-fields of Great Britain.

being completely honeycombed below. The effect of this unusual scenery is increased by the enormous volumes of dense smoke which hover round in all directions and obscure the sky, while at night the view is rendered still more striking, the whole horizon being illuminated by the light of innumerable coke-fires and blast-furnaces.

Staffordshire is altogether a manufacturing county. It includes a great number of populous towns and manufacturing villages, and is only exceeded by the metropolitan counties and Lancashire in density of population. The iron trade is its great and distinguishing feature. The tract of country which includes Wolverhampton, Dudley, and Birmingham* is one vast workshop. "On a fine night, the spectacle from the walls of Dudley Castle, which rises from the centre of the coal-field, is one which has scarcely a parallel. The whole country within a radius of five or six miles is overspread by collieries, iron foundries, blast-furnaces, and the dwellings of a dense population; and from amidst the thick, smoky atmosphere, the tongues of fire from the furnaces shoot up an intermittent light which illuminates the whole heavens. But the spectacle before our eyes does not represent the whole sum of human labour; for whilst ten thousand hands are at work above ground, one half as many perhaps are beneath the surface, heaving out the coal which is to be the prime mover of the whole machinery."† There are brine-springs in parts of the county, in the neighbourhood of the Trent, near Stafford.

Staffordshire is divided into 5 hundreds. It includes the following towns and populous manufacturing villages:—

	Pop.		Pop.		Pop.
STAFFORD .	12,487	BURTON-UPON-		BILSTON .	23,527
ECCLESHALL .	1,427	TRENT .	9,769	WEDNESBURY	11,914
PENKRIDGE .	3,316	TUTBURY .	1,798	WALSALL .	37,762
BREWOD .	3,565	UTTOXETER.	3,468	TIPTON .	24,872
NEWCASTLE-		LONGNOR .	561	WEST BROM-	
UNDER-LYME	12,938	LEEK .	13,292	WICH .	34,591
STOKE-UPON-		CHEADLE .	2,728	TAMWORTH .	4,059
TRENT .	101,302‡	WOLVER-		LICHFIELD .	6,872
STONE .	3,443	HAMPTON	60,858	BRIERLEY	
RUGELEY .	3,054	Tottenham .	3,396	HILL .	8,770
		Willenhall .	11,931		

* Dudley, though belonging to the county of Worcester, is locally surrounded by Staffordshire.

† Hull: the Coal-fields of Great Britain.

‡ The population of Stoke-upon-Trent is that of the pottery-towns as a whole, including, besides Stoke itself, the adjacent townships of Burslem, Hanley, &c., named in the text.

The city of Lichfield, and the boroughs of Stafford, Newcastle, Stoke-upon-Trent, Wolverhampton, and Tamworth, each return two members to the House of Commons. The borough of Walsall returns one member. The county returns four members, two for each of its divisions (North and South).

Stafford, the county-town, is situated on the river Sow, an affluent of the Trent. It is chiefly distinguished in the present day by its considerable share in the boot and shoe manufacture (principally for the supply of the London market), and it has, besides, extensive tanneries.

Newcastle-under-Lyme is an ancient town in the northerly portion of Staffordshire, two miles distant from the right bank of the Trent, and only a few miles from the source of that river. It has some manufacture of hats, and also silk, cotton, and paper mills. But the Pottery towns, which lie near at hand, represent the manufacturing industry of this portion of the county. The chief of them is *Stoke-upon-Trent*, in close proximity to which are Hanley, Burslem, Longton, Fenton, Lane End, and Tunstall—all of them included within the parliamentary borough of Stoke-upon-Trent. The pottery towns cover, in all, a space of above ten square miles, within which area the making of earthenware and porcelain forms almost the sole occupation of the inhabitants. The material for the production of these wares (in so far as all the finer descriptions of porcelain are concerned) are brought from other parts of the kingdom; kaolin, or porcelain-clay, from Cornwall, gypsum and siliceous chert from Derbyshire, and chalk-flints from various places in the south of England. The coarser kinds of earthenware, with tiles, are made in large quantities from the clays which are found amongst the strata of the upper coal-measures of the district.

Burton-upon-Trent, in the eastern part of the county, on the Derbyshire border, is noted for its extensive breweries. *Tutbury*, a few miles N. of Burton, on the right bank of the Dove, has declined from the size of a town to that of a village. It is of ancient date, its castle (of which the ruins yet remain) being mentioned in Domesday book. Tutbury Castle was the scene of many events of historic interest. It was once the residence of John of Gaunt, and afterwards, for a time, the prison of Mary Queen of Scots. The Royalists held possession of it during the chief part of the civil war, and only surrendered it to the Parliamentary arms in 1646, when it was in great part demolished.

Wolverhampton, the largest town in Staffordshire, in the south-western portion of the county, and within the area of the South Staffordshire coal-field, forms one of the great centres of industry in

connection with the iron-trade, to which its importance is owing. Wolverhampton is of Saxon origin. It has increased largely in size and population within recent years. Willenhall, Walsall, Tettenhall, Bilston, Wednesbury, West Bromwich, Tipton, Brierley Hill (3 miles S.W. of Dudley), are amongst the many populous towns and manufacturing villages that belong to the same district.

Lichfield and *Tamworth* are in the more eastwardly portion of the county, but within its southern division: the former, a cathedral city, is distinguished as the birth-place of Dr. Johnson. Tamworth lies at the place where the Anker (from Warwickshire) unites with the stream of the Tame.

15. WARWICKSHIRE has an area of 563,946 acres, or 881 square miles. Its boundary-line is for the most part artificial. In the south-west, however, the rivers Avon and Stour mark a portion of the county limit, as the Tame and its affluent, the Anker, do in the extreme north. The high ground of the Edge Hills, in the south-east, forms the division between Warwickshire and Oxfordshire. The north-eastern border of the county, on the side of Leicestershire, coincides with the line of the ancient Watling Street.

The position of Warwickshire is one of the most central in England. The county has, however, no ground of any conspicuous height. The whole surface is moderately elevated, and is richly diversified by gentle hills and intervening valleys, many portions being abundantly wooded. The principal woodlands are found about the middle, western, and northern districts: the south-eastern portions are generally more open and champagne.

The chief rivers of Warwickshire are the Avon, the Leam, and the Stour, all belonging to the Severn basin, with (in the northern part of the county) the Tame, the Anker, and the Blythe, which carry their waters to the Trent. The higher grounds of Warwickshire, therefore, inconsiderable as is their elevation, divide the waters of the western and eastern seas. The Avon, the most important of the Warwickshire rivers, enters the county from Northamptonshire: it flows through Warwickshire in a south-westerly direction, passing beneath the walls of Warwick Castle, and, lower down, beside the little town of Stratford. The Leam, which joins the Avon, gives its name to Leamington. The Stour (one of the many streams called by that name) joins the Avon lower down.

The geology of Warwickshire exhibits, in the south, chiefly strata belonging to the lias series; in the centre and north, new red sandstone predominates. The Edge Hills, in the south-east, belong to the lias, with strata of red marl and new red sandstone cropping

out below, to the west and north. Marlstone is quarried within the lias beds, and is used as paving stone. The small but productive coal-field which belongs to the county is enclosed within the new red sandstone area, extending from the neighbourhood of Tamworth, southward, by Atherstone and Nuneaton, for a distance of 15 miles, in the direction of Coventry. The coal-measures dip, to the west and south, under lower Permian (or red sandstone) rocks.

Warwickshire is distinguished chiefly as a manufacturing county. It ranks next after Staffordshire in comparative density of population. Its north-western division (within which Birmingham is included), adjoining the Staffordshire border, belongs to the great region of the iron-trade. The neighbourhood of Coventry, and the tract which lies within and adjacent to the coal-field referred to above, are also very populous. With these exceptions, the larger part of the county is occupied by pasture and arable land, the former predominating. In the neighbourhood of the large towns, a great deal of land is laid out in market-gardens.

Warwickshire is divided into 4 hundreds. Its towns are: —

	Pop.		Pop.		Pop.
WARWICK .	10,589	HENLEY-IN-		NUNEATON .	4,859
LEAMINGTON	15,724	ARDEN .	1,143	ATHERSTONE	3,819
KENILWORTH	3,140	KINOTON. OR		BIRMINGHAM	295,955
STRATFORD-		KINGTON .	1,270	COLESHILL .	1,980
ON-AVON .	3,372	SOUTHAM .	1,711	SUTTON	
ALCESTER .	2,027	RUGBY .	6,317	COLDFIELD	4,574
		COVENTRY .	41,647		

Birmingham, Coventry, and Warwick are parliamentary boroughs, returning two members each. The county returns four members — two for each of its divisions (North and South).

Warwick, the county-town, and a place of great antiquity, stands on the right or western bank of the river Avon, upon which the walls of its castle, one of the finest remaining monuments of the baronial greatness belonging to a past age that England possesses, look proudly down. *Leamington* (or *Leamington Priors*) immediately adjoining Warwick, to the eastward, has during many years been a place of fashionable resort, on account of its mineral waters. *Coventry* (nine miles to the north-eastward of Warwick, and eighteen miles south-east of Birmingham) stands upon high ground within the northern half of the county. It is a city of ancient date, the seat of a powerful Saxon earldom, and the favourite resort of the princes and sovereigns of England in former days. Coventry enjoyed, until a recent date (1842), the privileges of a distinct county. In the pre-

sent day, it is chiefly distinguished as the principal seat of the ribbon manufacture, and watch-making is extensively pursued.

Kenilworth is situated nearly midway between the towns of Coventry and Warwick. The remains of its magnificent castle, and the historic recollections with which they are associated, form in the present day its chief claims to notice. Kenilworth Castle formed one of the strongholds of the Earl of Leicester, in the time of Henry III., and for a time gave shelter to his son and the remaining adherents of his cause after the battle of Evesham. Edward II. was confined there, before his removal to Berkeley. The ownership of the castle passed, in the following reign, to John of Gaunt, whose son, Henry IV., reunited it to the domains of the crown, of which it formed a part until its grant by Queen Elizabeth to Dudley Earl of Leicester. That nobleman added largely to its extent, and the principal portions of the present ruins date from his time. The castle was dismantled after the civil war. The little town of *Stratford-upon-Avon*, eight miles south-west of Warwick, is distinguished as the birth-place of Shakspeare.

The modern importance of Warwickshire, however, centres in *Birmingham*, the great seat of the hardware trade. Birmingham lies nearly in the centre of England, and about midway between London and Liverpool, being 97 miles from the last-named town, and 112 miles from the metropolis by railway. It is watered by the river Tame, and its branch, the Rea (tributaries of the Trent), but these are insignificant streams. Birmingham, however, is the centre of an extensive canal and railway communication with all parts of the country. Its general appearance is not prepossessing, and a very considerable portion of the town is entirely occupied by an artisan population; but the principal streets have been much improved of late years, and some of the suburbs possess an attractive aspect. Of public buildings, the most striking is the town-hall, built in the form of a Roman temple, with Corinthian columns of grey Anglesey marble. Every description of steel and iron goods are extensively made, from the largest descriptions of fire-arms, to the smallest metallic articles required for use or ornament, as pins, steel-pens, buttons, buckles, nails, screws, and an immense variety of others. Plated and japanned wares are also manufactured to a great extent, and glass-making is extensively pursued.

16. WORCESTERSHIRE has an area of 472,165 acres, or 881 square miles. Its boundary-line — very irregular in direction, is marked, for short distances, by the streams of the Severn, the Stour, the Cole

(a small affluent of the Blythe), the Avon, and the Teme. The range of the Malvern Hills defines a portion of its western limit.

Worcestershire has a very varied surface. The general aspect of the county is rich and beautiful, everywhere agreeably diversified by hill and valley, and exhibiting almost throughout a verdant and richly-wooded landscape. The vale of Worcester, watered by the Severn, occupies the middle portion of the county: the vale of Evesham, through which the Avon flows, is in its south-easterly division. The Malvern Hills, which limit the vale of Worcester on the west, reach in their highest point (the Worcestershire Beacon, adjacent to the village of Great Malvern) 1,444 feet. The Abberley Hills, further to the north, run in the same general direction as the Malvern Hills, but are divided from the latter by the course of the river Teme. On the eastern side of the county are — in the north, the Clent Hills, and, stretching thence in the direction of S.E. to the Warwickshire border, the Lickey or Hagley Hills. Bredon Hill, in the south, and Broadway Hill, further to the eastward (both in the south-eastern division of the county), adjoin the Gloucestershire border. The top of Broadway Hill is 1,086 feet above the sea.

The chief river of Worcestershire is the Severn, which flows through the centre of the county in a broad and deep stream, navigable for vessels of 80 tons as far as the city of Worcester, and for barges of 60 tons higher up. All the other rivers of the county belong to the Severn basin. Among them are the Avon, the Salwarp, the Stour, and the Teme.

The Avon enters the county from Warwickshire, and, after watering the beautiful vale of Evesham, finally joins the Severn at Tewkesbury. The Salwarp belongs wholly to Worcestershire. It rises not far from Bromsgrove, and passes the town of Droitwich on its south-westerly course to the Severn. The Stour,* which comes from the south of Staffordshire, passes Stourbridge and Kidderminster (both in the northern part of this county), and joins the Severn, on its left bank, at Stourport. The Teme belongs to the western side of the Severn valley. It is a more rapid stream than any of those above mentioned, deriving its waters from the high grounds of the Welsh mountain-region. The Teme passes Tenbury, and finally joins the Severn a short distance below Worcester; it is not a navigable stream.

The geology of Worcestershire displays much variety. Lias and new red sandstone are the predominant strata. A large portion of the county, in the east and south-east, is occupied by the lias. The

* A different stream from the Warwickshire Stour, which joins the Avon below Stratford.

new red sandstone strata comprehend the valley of the Severn, with the north-easterly part of the county: the lower beds of this formation are found chiefly about Stourport, Kidderminster, and the tract of country lying east of the latter; the higher, or keuper sandstone, extend from Bromsgrove southward over Droitwich, Worcester, and the banks of the Severn upon either side.

Other formations are visible in the chain of the Malvern Hills, in the districts bordering upon Tenbury, Bewdley, and Dudley, and in the Lickey and Clent Hills. The portion of the Malvern Hills that is within Worcestershire consists of trap; Silurian rocks appear in the more northerly portions of the range. Coal and limestone appear to the northward of the Teme, in the tract that adjoins the Abberley Hills upon their western side. The town of Tenbury, further west, is within the limits of the old red sandstone, which is largely developed in the adjacent counties. Silurian strata, with the lower coal-beds, and trap, also appear in the tract of the Clent Hills and the adjoining Lickey range. Salt-rocks and brine-springs occur in the valley of the Salwarp, and salt is largely manufactured in the neighbourhood of Droitwich and Stoke Prior, within that tract.

Excepting in the extreme northern part of the county, which approaches the South Staffordshire coal-field, the industry of Worcestershire is chiefly agricultural. Wheat and other grains are extensively cultivated in its rich alluvial and loamy soils. In some districts hops form a principal crop. Apples and pears are very extensively grown, and both cider and perry are made in great quantities, so much so as to form in many districts the common beverage of the peasantry.

Worcestershire is divided into 5 hundreds.* Its towns are:—

	Pop.		Pop.		Pop.
WORCESTER .	31,123	STOURBRIDGE	7,847	PERSHORE .	2,717
UPTON-ON-		HALESOWEN .	2,412	Great Mal-	
SEVERN .	2,693	BROMSGROVE	10,308	vern .	3,911
STOURPORT .	2,993	DROITWICH .	3,125	TENBURY .	1,786
BEWDLEY .	3,124	REDDITCH .	4,802	DUDLEY .	44,975
KIDDER-		EVESHAM .	4,680	OLDBURY .	11,640
MINSTER .	15,398				

The city of Worcester and the borough of Evesham each return two members to the House of Commons. The boroughs of Bewdley, Kidderminster, Droitwich, and Dudley, each return one member.

* These divisions are of recent date.

The county returns four members—two for each of its divisions (East and West).

Worcester, a cathedral city of great antiquity, is situated on the east side of the Severn, in the midst of a fertile valley. It has manufactures of porcelain and gloves, and a considerable market for agricultural produce, especially hops. This city was the scene of Cromwell's victory over Charles II., in 1651.*

Kidderminster, thirteen miles north of Worcester, on the banks of the river Stour, is noted for its extensive manufacture of carpets. *Stourbridge*, on the same river, further to the north-east, and on the borders of the South Staffordshire coal-field, has extensive manufactures of glass, iron, and bricks. Both this place and *Stourport* (on the Severn, at the junction of the Stour) enjoy considerable inland trade, a large portion of it carried on by canal and river navigation.

Bromsgrove, 13 miles to the north-east of Worcester, near the head of the Salwarp river, is noted for its nail-making trade. About two miles S. of this town, at the village of Stoke Prior, are extensive salt and alkali works. Lower down the Salwarp valley, and nearly midway between Bromsgrove and Worcester, is *Droitwich*, where salt is extensively made from the brine-springs. *Redditch*, on the eastern border of the county (5 miles E. by S. of Bromsgrove, and 12 miles to the southward of Birmingham) is a busy manufacturing town, devoted chiefly to the production of needles and fish-hooks. *Evesham* and *Pershore* are both situated on the banks of the Avon: the former, which gives its name to the adjoining vale, has been mentioned elsewhere.† The village of *Great Malvern*, a fashionable watering-place, lies at the east foot of the Malvern Hills.

Dudley, the largest town of Worcestershire, is situated within a detached portion of the county, locally surrounded by Staffordshire. It is 8 miles to the W. by N. of Birmingham. Dudley lies in the heart of the South Staffordshire coal-field, and shares extensively in the manufacturing industry of that busy tract of country.‡ It is a place of ancient date—probably of Saxon origin. *Oldbury*, three miles eastward of Dudley, is the seat of various branches of industry connected with the iron trade, and has grown largely in size and population within a recent period.

17. SHROPSHIRE (or Salop) has an area of 826.055 acres, or 1,291 square miles. It is, on the whole, a county of regular shape, and

* See *ante*, p. 266.

† See *ante*, p. 323.

‡ Chap. ix. p. 163.

of large dimensions. The rivers Severn, Virnwy, Ceiriog, Dee, Tern, and Teme, all form portions of its boundary-line, but the last-named is the only one that marks its limit for any considerable distance.

Shropshire has great variety of surface. That portion of the county which is to the north and east of the Severn is much less varied than the division lying west and south of that river. It contains, however, the detached mass of the Wrekin, a few miles to the E. by S. of Shrewsbury, the summit of which is 1,320 feet above the sea. The northern part of Shropshire exhibits, for the most part, a merely undulating surface, and forms a continuation of the plain of Cheshire.

The high grounds of southern and south-western Shropshire are arranged in several distinct ridges, divided by intervening valleys. These ridges — enumerated in order from the Welsh border eastward — consist of the chain known as the Stiper Stones, the Long Mynd, the Caradoc Hills, Wenlock Edge, and the Clee Hills. All but the last-named of these have a general direction of N.E. and S.W. The Clee Hills run nearly due north and south. The chains of the Stiper Stones and the Long Mynd are separated by the valley of one of the feeders of the Onny river. The highest point of the Long Mynd reaches 1,674 feet. The Caradoc Hills, to the eastward of Church Stretton, are from 900 to 1,200 feet in height. The long and narrow valley known as Ape-dale (watered by the Eaton brook, a feeder of the Onny) divides the Caradoc Hills from the lengthened ridge of Wenlock Edge, which stretches through nearly twenty miles, from the banks of the Onny to those of the Severn in the neighbourhood of Coalbrook Dale. Wenlock Edge rises with a steep ascent upon its western side, but sinks with a more gradual slope to the eastward. The broad valley of Corve Dale (through which flows the stream of the Corve, a tributary of the Teme) lies to the eastward of Wenlock Edge; its eastern side is bounded by a hilly range of inconsiderable height, but connected, a short way further east, with the Clee Hills. These latter include the highest ground in the county: Brown Clee Hill, the more northerly of their two principal summits, reaches 1,805 feet, and Titterstone Clee, a few miles further south, 1,750 feet.

Beside the above named tracts, the south-western corner of Shropshire includes a considerable extent of elevated ground known as Clun Forest. This tract, which lies immediately adjacent to the Welsh border, attains in parts an elevation of 1,200 feet. Clun Forest (like many other districts to which the term "forest" is applied) is not, as the name might seem to imply, a wooded tract; it consists of smooth rounded hills, formerly used as sheep-walks, but now for the most part enclosed. The Forest of Wyre lies

adjacent to the right bank of the Severn, in the neighbourhood of Bewdley; it is covered principally with underwood.

Shropshire belongs almost entirely to the basin of the Severn, which enters the county from the Welsh border, on the west, and flows across it in a general direction of south-east. The Severn is navigable throughout its course within the county, which is nearly 70 miles in length. Besides the Severn, the principal rivers of Shropshire are the Teme, with its tributaries, the Clunn, the Onny, the Corve, and the Rea; the Perry, the Tern, and the Roden. The Teme passes from Shropshire into Worcestershire, and joins the Severn on its right bank, below Worcester. The Perry and the Tern both join the left bank of the Severn, the former above, the latter a few miles below, Shrewsbury. The Roden unites its waters with the Tern a short distance above the junction of that river with the Severn.

The geology of that portion of Shropshire which lies to the north and east of the Severn exhibits principally new red sandstone strata, diversified, however, by a coal-field of some extent (in the neighbourhood of Wellington), and by the Silurian and trap rocks that compose the mass of the Wrekin. The division of the county lying south and west of the Severn is composed chiefly of Silurian and Cambrian rocks, overlaid in part by coal-beds, and flanked on their eastern side by an extensive area of old red sandstone. The Silurian strata of Shropshire comprehend Ludlow rocks, Wenlock limestone, and Caradoc sandstone. The chain of the Long Mynd is composed of Cambrian and altered rocks, older in point of date than the Silurian, and interspersed with outbreaks of trap. The Long Mynd is, geologically, one of the oldest portions of the island.

The mineral productions of the county are very various. Of these, coal and iron are the most important. Shropshire has within it five distinct coal-fields—that which derives its name from the Forest of Wyre, the small outlying tract of the Clee Hills, the Shrewsbury coal-field, one in the neighbourhood of the tract extending from the base of the Caradoc Hill to the north-eastward, and, lastly, that of Coalbrook Dale. It is only the last mentioned that possesses any considerable importance.

The Coalbrook Dale coal-field has a triangular form, with its base in the valley of the Severn, near Coalbrook Dale, and its northern apex at Newport, a length of above ten miles. Along its western side it is bounded partly by new red sandstone strata, and partly by the Silurian rocks of the Wrekin. Upon its eastern side the coal-field is bounded by Permian strata, under which the carboniferous beds appear to pass, but with diminishing thickness.*

* Hull: the Coal-fields of Great Britain.

Among the trap and sandstones of the southern part of the county there are metalliferous veins, containing lead and other ores of considerable value. A salt-spring on the banks of the Teme, below Ludlow, was worked at a very early period. Saline springs are numerous within the new red sandstone strata of North Shropshire.

Excepting within the Coalbrook Dale district, the industry of Shropshire is principally agricultural. Wheat, barley, oats, peas, and turnips, are extensively cultivated. The pasture grounds along the banks of the Severn are rich; numerous cattle are reared in these parts, and cheese is largely made — the latter, however, generally of inferior quality, excepting in the northerly portion of the county, adjacent to Cheshire.

Shropshire is divided into 12 hundreds. Its towns are : —

	Pop.		Pop.		Pop.
SHREWSBURY	22,055	NEWPORT .	2,906	OSWESTRY .	4,817
Shiffnal .	1,598	WELLINGTON	4,601	LUDLOW .	5,178
MADELEY .	8,525	MARKET		CHURCH	
BROSELEY .	4,739	DRAYTON .	4,947	STRETTON	1,676
MUCH WEN-		WHIT-		BISHOPS	
LOCK .	2,398	CHURCH .	3,619	CASTLE .	1,699
BRIDGE-		WEM .	3,747	CLEOBURY	
NORTH .	6,569	ELLESMERE .	2,087	MORTIMER	1,738

Shrewsbury, Wenlock,* Bridgenorth, and Ludlow, are parliamentary boroughs, each returning two members. The county returns four members, two for each of its divisions (North and South).

Shrewsbury, the county-town of Shropshire, stands on the banks of the river Severn, by which it is nearly encircled. It is a place of great inland trade, and a mart for the produce of Shropshire and the adjoining counties of North Wales. The battle fought in its neighbourhood (A.D. 1403) has been noticed in a preceding page. The village of Wroxeter, which represents the buried Roman city of *Uriconium*, now in course of excavation, lies five miles S.E. of Shrewsbury, on the left bank of the Severn, and not far distant from the foot of the Wrekin.

Oswestry, 18 miles to the N.W. of Shrewsbury, makes near approach to the Welsh border. It is a town of Saxon origin — said to

* The parliamentary borough of Wenlock includes, besides Wenlock itself, the towns of Brosely and Madeley, with the populous districts of Coalbrook Dale and Ironbridge, adjacent to the latter.

derive its name from Oswald, King of Northumbria, who was slain there in a battle with Penda, the fierce king of the Mercians.*

Wellington, nine and a half miles east of Shrewsbury, has extensive coal and metal works. The tract of country lying to the east and south-east of Wellington, and reaching in the latter direction to the banks of the Severn at Coalbrook Dale and Iron Bridge, includes one of the chief seats of the iron-manufacture. Coalbrook Dale—properly the name of a deep ravine, lying between wooded hills—is a busy scene of artisan industry, in connection with the iron trade. Iron Bridge, on the Severn, adjoins the town of *Madeley*, a short distance to the eastward of that river. *Broseley* is near the opposite or western bank of the river.

Shifnal, seven miles to the south-eastward of Wellington, is within the limits of the coal-field. A little more than 5 miles E. of Shifnal, and close beside the Staffordshire border (but just within Shropshire) is Boscobel House, where Charles II. found a temporary asylum after the battle of Worcester.

Bridgenorth, 20 miles to the S.E. of Shrewsbury, is divided by the stream of the Severn, upon either side of which a portion of the town is situated. Bridgenorth dates from the Saxon period, and was early a place of some distinction. Its castle, frequently besieged during the troublous periods of English story—for the last time, during the civil war, when it was held by a Royalist force—has long been completely destroyed.

Ludlow, near the southern border of the county, stands on the left bank of the river Teme, at the point where it is joined by the Corve. The remains of its ancient castle, now a magnificent ruin, constitute the most attractive feature of the town. Ludlow Castle, the origin of which dates from the time of William Rufus, was long esteemed one of the strongest fortresses on the Welsh border. As such, and from the importance of its position, it became the frequent residence of the lords presidents of the Welsh marches, and has received upon many occasions the visits of royalty. It was under the presidency of the Earl of Bridgewater that the masque of “*Comus*” was first presented here in 1634. During the troubled years which shortly ensued, Ludlow Castle was garrisoned for the King, but was given up to the Parliamentarians in 1646. It was allowed to fall into decay after the dissolution of the court of the lords-marchers, in the time of William III.

* The place hence (says tradition) became called Oswald's tree, whence the modern name. A spring in the neighbourhood of the town bears the name of Oswald's well; it was formerly enclosed within a building dedicated to that monarch.

18. HEREFORDSHIRE has an area of 534,823 acres, or 836 square miles. It lies immediately S. of Shropshire, and adjoins on the west the Welsh border. Small portions of the county boundary are marked by the rivers Wye, Arrow, Lug, and Teme; and a more considerable portion by the Munnow, which divides Hereford from Monmouthshire. The Malvern Hills extend along a part of the eastern border, on the side of Worcestershire.

The surface of Herefordshire is nearly everywhere diversified with hill and valley, though not generally rising to any conspicuous height. The highest ground is in the S.W., in the chain of the Hatterell Hills or Black Mountain, along the border of Brecknockshire. The direction of this chain is N.W. and S.W.: other but less elevated ranges of hill, following the same direction, with valleys between, fill up the south-westerly portion of the county. The Malvern Hills, upon the eastern border, have been already referred to. Gently swelling and wooded hills fill up other parts of the county, in the centre and west.

The chief river of Herefordshire is the Wye, which crosses the county from the border of Wales in the direction of east and south, forming numerous windings in its course. Its volume of water undergoes too much variation in quantity (according to the greater or less prevalence of rain in the high grounds that adjoin the upper portions of its valley), for its navigation to be otherwise than uncertain; barges, however, can at all times ascend to the city of Hereford, and are sometimes able to reach the town of Hay, upon the Welsh border. Nearly all the drainage of Herefordshire belongs to the Wye basin. The *Lug*, which is the chief affluent of the Wye, brings with it the waters of the *Arrow*, and (lower down, a short distance only above its junction with the Wye) of the *Frome*. The *Munnow* flows along the south-western border of the county, and is joined by the *Dore* (or *Doyer*) and other streams. The *Liddon*, which waters a small tract on the eastern border of the county, passes into Gloucestershire, and ultimately joins the Severn.

Nearly the whole county belongs, geologically, to the old red sandstone formation. The only exceptions occur in the north-west, within the district stretching from Aymestry in the direction of Ludlow; and on the eastern side of the county, in the neighbourhood of Woolhope ($6\frac{1}{2}$ miles S.E. of the city of Hereford), and at the foot of the Malvern Hills. In each of these directions, limestones of the Silurian period have been raised above the strata of old red sandstone.

Herefordshire is entirely an agricultural county. It has no large towns, and in ratio of population to extent of surface it ranks amongst the lowest in the list of English counties.* Its most

* See Table in p. 273.

characteristic produce is that of the orchard: apples and pears abound throughout the county, and both cider and perry (especially the former) are made in every district. Hops are also much cultivated, together with the usual cereal crops. There are rich pastures on the banks of the rivers.

Herefordshire is divided into 11 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
HEREFORD .	15,625	PEMBRIDGE.	1,319	BROMYARD .	3,093
ROSS . . .	2,674	KINGTON .	2,871	LEDGBURY .	3,027
LEOMINSTER.	5,660	WEOBLY .	908		

The city of Hereford, and the parliamentary borough of Leominster, each return two members to the House of Commons. The county returns three members.

Hereford, an ancient cathedral city, is situated on the north bank of the river Wye. It is a great seat of traffic for the agricultural produce of the county, and has recently become an important centre of railway-communication for a large surrounding district.

Leominster, on the river Lug, lies twelve miles north of Hereford. Mortimer's Cross, between 5 and 6 miles to the N.W. of Leominster, has been elsewhere referred to.* The town of *Ledbury* lies about 12 miles distant from Hereford, in the opposite direction of E. by S. The little stream of the Leddons flows past Ledbury on its western side. *Ross*, a small town on the banks of the Wye, has acquired popular repute from the celebrity given by Pope's lines to "the man of Ross," John Kyrle, whose remains are interred in its churchyard. Three miles S.W. of Ross, and on the opposite (or right) bank of the Wye, are the massive ruins of Goodrich Castle, the scene of siege by the Parliamentary forces during the Civil War.

19. **MONMOUTHSHIRE** has an area of 368,399 acres, or 575 square miles. It is a maritime county, its limit to the southward being marked by the waters of the Bristol Channel. Its frontier in other directions is indicated for the most part by natural features; upon the east and north-east by the river Wye, and its affluent the Munnow, which divide Monmouthshire from the counties of Gloucester and Hereford, upon the west by the river Rumney, which marks, through nearly its whole length, the line of division between Monmouthshire and Glamorganshire.

Monmouthshire has great diversity of surface. In the west and

* See chap. ix. p. 172.

north, the country presents a mountainous aspect, and some of the higher elevations exceed fifteen hundred feet in altitude. These portions of the county belong, physically, to the adjacent mountain-region of South Wales. The middle and eastern portions of Monmouthshire, though much less elevated, are diversified by hill and dale, exhibiting an aspect that becomes strikingly attractive as the banks of the Wye are approached. These portions of the county are well wooded, and abound in the picturesque remains of castellated and religious edifices belonging to a former age. In the south, a level tract stretches along the shore of the Bristol Channel, reaching inland, in some places, for a distance of above a mile. The estuary of the Usk divides this level into two portions. The part lying to the eastward of the Usk is known as Caldecot Level, that to the west of the Usk is called Wentloog Level. These levels are protected from inroads of the water by vast sea-walls and earth-works.

The Sugar-Loaf Mountain, about four miles N.W. of the town of Abergavenny, reaches 1,856 feet in height, and is the most elevated point in the county. It lies immediately adjacent to the Welsh border. North of the Sugar-Loaf, the ranges of high ground which fill up the extreme north-western portion of the county belong to the chain of the Black Mountains, on the Brecknockshire and Herefordshire borders. These ranges are divided by deep and secluded valleys (so deep as to be entitled to the epithet of glens), which have a direction of N.W. and S.E. The streams which water these valleys flow to the south-eastward, and are ultimately directed, in the one case towards the Munnow, in the other towards the Usk.

A few miles east of the Sugar-Loaf (and lying in the direction of N.E. from Abergavenny), is the Skirrid-fawr, 1,513 feet high. The Skirrid-fach, more nearly adjacent to Abergavenny, reaches only 914 feet. Upon the opposite or southern side of the Usk valley (3 miles S.W. of Abergavenny) is the Bloreng, which has a height of 1,720 feet.

From the Bloreng southward to Pontypool, and thence, in the direction of south-west, past Risca (on the river Ebwy) to the banks of the Rumney, may be traced a succession of heights, marking the eastward limit of the high grounds which fill nearly all the western division of the county, between the Afon Llwyd and Rumney rivers. The Mynydd Maen, within this tract (about 3 miles S.W. of Pontypool), is 1,563 feet high. The mountains in this portion of Monmouthshire are divided in successive ridges, lying in the direction of north and south, by the deep valleys that intersect them.

The most considerable rivers of Monmouthshire are the Wye and the Usk. The former (excepting for a very short distance, in the immediate neighbourhood of the town of Monmouth) is only a

border stream. It is the lower portion of the Wye valley, between Monmouth and Chepstow, that presents the greatest scenic attractions. Sea-going vessels ascend the river to Chepstow Bridge, and the tidal current reaches as far as Tintern, five miles higher up. The Wye receives at Monmouth the river Munnow, and almost immediately below, the smaller stream of the Trothy. The *Usk* enters Monmouthshire from Wales, and flows through the middle of the county, past the towns of Abergavenny, Usk, Caerleon, and Newport. It is joined on its right bank, above Caerleon, by the *Afon Llwyd*, which draws its waters from the southern and western slopes of the *Bloreng* Mountain. The estuary of the *Usk* receives the river *Ebwy* (or *Ebbw*).*

The rivers *Ebwy*, the *Sirhowy*, and *Rumney*, belong to the mountain region in the west of Monmouthshire. The *Ebwy* is formed by the junction of two small mountain streams, distinguished as *Ebwy-fawr* and *Ebwy-fach*; † its course is then southward to the junction of the *Sirhowy*, the valley of which river lies further to the west: the further course of the *Ebwy* is to the south-eastward. The *Rumney* has, through the greater portion of its course, a direction parallel to that of the *Sirhowy* and *Ebwy* rivers.

Two-thirds of Monmouthshire belong, geologically, to the old red sandstone formation, which covers nearly the whole county to the eastward of a line drawn from Abergavenny to the mouth of the *Usk*. The carboniferous limestone of Dean Forest penetrates the eastern part of the county, and extends into it for some distance to the westward of the Wye, parallel to the line of coast. A narrow strip of new red sandstone borders this tract on its seaward side. In the neighbourhood of the town of *Usk*, the underlying *Silurian* strata penetrate through the old red sandstone.

The remainder of the county, embracing its western division, forms part of the coal-field of South Wales. Coal, iron-stone, and limestone, are here abundant, and the valleys by which the whole tract is intersected exhibit scenes of active industry, in connection with mining operations. The mountain-sides are penetrated at various levels, and the strata which lie at considerable depths below the surface are thus worked to advantage.

The middle and eastern portions of Monmouthshire are agricultural. Good crops of wheat are raised within the valleys of the Wye and the *Usk*: oats and barley, chiefly in the higher grounds to the north-

* Pronounced *Ebboo*, the *w*, as in Welsh names generally, filling the place of a vowel.

† That is, great and little *Ebwy*: similarly, *Skirrid-fawr* and *Skirrid-fach*.

ward. The flat and marshy tracts along the coast are chiefly in pasture.

Monmouthshire is divided into 6 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
MONMOUTH	5,710	USK	1,479	PONTYPOOL	3,708
CHEPSTOW	4,332	CAERLEON	1,281	TREDEGAR	8,405
ABERGAVENNY	5,506	NEWPORT	23,248	Caerwent	420

Monmouth is a parliamentary borough, returning two members to the House of Commons. The county also returns two members.

Monmouth, the county-town, situated at the junction of the Munnow and the Wye, derives some importance from its trade in timber and iron, as well as from its extensive markets for agricultural produce. Its chief interest, however, belongs to its historic associations. Monmouth Castle, of which only a fragment is now left, was the birth-place of Henry V. *Chepstow*, at the mouth of the Wye, has considerable trade, exporting timber, coals, iron, cider, and other produce of the adjacent counties. The picturesque ruins of Tintern Abbey are eight miles above Chepstow, measuring by the windings of the river. *Newport*, a short distance above the mouth of the Usk, constitutes the outlet for the adjacent coal and iron district, and has extensive trade. *Caerleon*, one of the most ancient towns in Britain, formerly a Roman station, and the traditional scene of Arthur's court, is a few miles to the N.E. of Newport, on the right bank of the Usk. *Caerwent*, a place also of ancient fame, though now a mere village, is eight miles E. of Caerleon.*

Pontypool, 8 miles to the northward of Newport, on the Afon Llwyd, has extensive iron and jappanning works. The town of *Usk*, situated on the left bank of the river Usk, lies 6 miles east of Pontypool. At nearly the same distance from Usk, in the direction of N.N.E., is the village of Ragland, with the ruins of its fine old castle, which afforded shelter to Charles I. after the battle of Naseby.† *Abergavenny*, in the northern part of the county, is a small town on the Usk.

Among the principal iron-works of Monmouthshire are the Rumney, Tredegar, Sirhowy, Ebbw Vale, Pentwyn, Beaufort, Blaen-Afon, Blaina, Nant-y-Glo, and Pontypool. The town of *Tredegar*, which has grown into existence within a recent period, around the extensive works of that name, lies 12 miles W. by S. of Abergavenny, near the head of the Sirhowy valley.

* See *ante*, pp. 91 and 154.

† Ragland Castle, afterwards stoutly defended by the Royalists, under the gallant Marquis of Worcester, to whom it then belonged, was obliged to surrender to the Parliamentary forces in 1646.

20. GLOUCESTERSHIRE has an area of 805,102 acres, or 1,258 square miles. Its boundary-line, which is exceedingly irregular in direction, is for the most part artificial, excepting on the W. and S., where the Wye and the Lower Avon rivers, with the mouth of the Severn, mark its limit.

The most marked feature in the physical aspect of Gloucestershire is presented by the prolonged chain of the Cotswold Hills, which stretch through the whole length of the county, in the direction of N.E. and S.W., and, with the adjoining high ground, fill up all its eastern portion. To the west of these hills is a valley watered by the river Severn, which crosses the county from north to south, dividing it into two distinct portions. The tract of country situated to the west of the Severn is chiefly a wooded district, called the Forest of Dean.

Gloucestershire hence includes three natural divisions, known respectively as the Hill, the Vale, and the Forest districts. The higher elevations of the Cotswold chain exceed a thousand feet. Broadway Beacon (about three miles S.W. of Chipping Campden) is 1,086 feet high, and Cleve Hill, to the north-eastward of Cheltenham, 1,134 feet. From the neighbourhood of Cheltenham southward, the hills decline in height, a considerable depression occurring about Stroud, where they sink to 250 feet.* Southward of Stroud, the hills again rise in height, the ground about Wotton-under-Edge reaching nearly 800 feet. The southernmost extension of the chain passes beyond the limits of the county, forming the high ground which overlooks Bath, in the adjoining county of Somerset. A branch chain, of lower elevation, leaves the main tract of high ground in the neighbourhood of Wotton, and stretches thence, in a south-westerly direction, to the banks of the Avon, below Bristol.

The valley portion of Gloucestershire is the tract that extends between the western base of the Cotswolds and the course of the Severn. This is locally divided into the Vale of Gloucester, between the northern border of the county and the city of Gloucester; and the Vale of Berkeley, which embraces the tract from Gloucester southward. The hills that enclose the Vale of Berkeley on the east form nearly the curved line of an arc, to which the course of the river Severn constitutes the chord.

The forest division of the county, or the tract lying west of the Severn, comprehends the Forest of Dean. This forms a kind of plateau, of irregular and moderately elevated surface, and in many parts highly picturesque in aspect. The Forest of Dean still includes

* It is at this point that the railway between Swindon and Gloucester traverses the Cotswold chain.

a large quantity of valuable oak and other timber, though many portions of it are now bare. It is the locality, also, of a distinct coal-field, of considerable extent.

The chief river of Gloucestershire is the Severn, which throughout its course of 60 miles within the county is a deep and navigable stream. By aid of the Gloucester and Berkeley ship-canal (which runs along the eastern side of the river, above Berkeley, and avoids the windings of the natural stream), vessels of 500 tons can reach the quays of Gloucester. Among the other rivers of Gloucestershire are the Wye, the Liddon, the Upper, Lower, and Little Avons, and the North Frome—all of which belong to the Severn basin: with the Windrush, the Leach, and the Coln, belonging to the basin of the Thames. The Cotswold Hills form the watershed between the basins of the Severn and the Thames.

The Upper (or Warwickshire) Avon, which joins the Severn at Tewkesbury, has only a very small portion of its course in Gloucestershire. The Lower Avon forms the south-western border of the county, passing Bristol and Clifton on its way to the sea. The North Frome, a small stream which rises in the neighbourhood of Wickwar, joins the Avon at Bristol. The Little Avon, flowing also from the high ground about Wickwar, in an opposite direction, passes Berkeley and enters the Severn.

The river Thames, or Isis, has one of its sources at Thames Head, immediately within the line of the Gloucestershire and Wiltshire border (2 miles S.W. of Cirencester). The Coln, the Leach, and the Windrush, all flow down the eastward slopes of the Cotswold region: the two former join the Thames near Lechlade, within the south-eastern angle of this county; the Windrush passes into Oxfordshire.

The whole of the Cotswold district belongs, geologically, to the great (or lower) oolite, on the western escarpment of which beds of fullers' earth, inferior oolite, and marly sandstone, occur. This is succeeded, to the west, by lias strata, which underlie nearly throughout the valley region. In the south-west, the Bristol coal-field occupies a tract which extends northward from the banks of the Avon to the neighbourhood of Wickwar. The more southwardly portion of this coal-field is within the adjacent county of Somerset. The Forest of Dean, to the west of the Severn, comprehends another and distinct coal-field, surrounded by an elevated border of carboniferous limestone and old red sandstone. The tract lying north of the forest, and stretching along the western bank of the Severn, to the Worcestershire border, belongs to the new red sandstone series. This last-named formation also appears upon the east bank of the Severn, lower down, in the neighbourhood of Berkeley.

The coal derived from the Bristol coal-field is of very considerable

value, and serves to feed the numerous factories of that city. The Dean Forest field, besides coal, furnishes iron-ore of excellent quality, and is capable of giving a much greater yield than it has hitherto done. Besides coal and iron, the mineral productions of Gloucestershire include ores of both zinc and lead, with various building-stones, marbles, and crystals. Good limestone is quarried in the neighbourhood of Clifton,* and also in other parts of the county.

Although the seat of extensive manufactures, in Bristol and its neighbourhood, Gloucestershire is chiefly an agricultural county. Dairy-farming is its most distinctive feature in this respect. Within the Vales of Gloucester and Berkeley, the greater portion of the land is in pasture: cattle are numerously reared, and large quantities of butter and cheese are made. The produce of the orchard is also very considerable, and great quantities of cider are made. The usual cereal crops, with turnips, are reared in most parts of the county.

Gloucestershire is divided into 28 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
GLOUCESTER	16,320	THORNBURY	1,470	MINCHIN-	
CHELTENHAM	39,590	BRISTOL†	154,093	HAMPTON	4,469
TEWKESBURY	5,876	CHIPPING SOD-		PAINSWICK	3,464
WINCHCOMB.	2,824	BURY	1,195	BISLEY	4,809
CHIPPING		MARSHFIELD	1,648	CIRENCESTER	6,334
CAMPDEN.	2,351	TETBURY	2,615	FAIRFORD	1,859
BERKELEY	946	NEWNHAM	1,288	NORTHLEACH	1,352
DURSLEY	2,752	MITCHELDEAN	662	LECHLADE	1,373
WOTTON-		NEWENT	3,306	STOW ON THE	
UNDER-		COLEFORD	2,310	WOLD	2,250
EDGE	4,224	STROUD	35,513	MORETON IN	
WICKWAR	966	Nailsworth.		THE MARSH	1,512

The cities of Gloucester and Bristol, and the boroughs of Tewkesbury, Stroud,† and Cirencester, each return two members to the House of Commons. The borough of Cheltenham returns one member. The county returns four members—two for each of its divisions (East and West).

Gloucester, an ancient cathedral city, of Roman origin, is the capital of the county. It stands upon the east bank of the Severn, which divides, a

* The lias slabs of this locality are popularly known as “landscape stone,” from the resemblance which the markings on their surface bears to trees and other features of natural scenery.

† Bristol is a city and county of itself. For many purposes, however, it is regarded as within the county of Gloucester.

‡ The parliamentary borough of Stroud includes the towns of Painswick, Bisley, Minchinhampton, &c.

short distance above the city, into two channels, inclosing between a fertile tract of meadow land, known as Alney Island.* Gloucester commands an extensive inland trade, by means of the river and the canals with which it is connected, and has also considerable foreign trade. The manufacture of pins, once largely carried on here, has become transferred to Birmingham.†

Cheltenham, 9 miles to the north-eastward of Gloucester, is beautifully situated at the western foot of the Cotswold Hills, upon the little stream of the Chelt, which joins the Severn: it is a well-known place of resort for the sake of its mineral waters. *Tewkesbury*, at the confluence of the Avon and the Severn, has considerable local trade (chiefly in corn and other produce of the neighbouring tract of country), and is noteworthy for its fine collegiate church and its historic associations.‡

Bristol, third in importance amongst the English seaports, lies chiefly on the north bank of the Lower Avon, about eight miles above the mouth of the river, and at the place where it is joined by the little stream of the Frome. It has spacious quays, with docks for the accommodation of the largest vessels. The foreign trade of Bristol, however, is greatly inferior to that of Liverpool; its coasting and Irish trade are very considerable. Bristol has manufactures of glass, sugar-refineries, iron, brass, and other metal works; floor-cloth, earthenware, and a variety of other articles. The whole circuit of the city is nearly ten miles, and for a further distance of six miles round there is a busy manufacturing population. *Clifton*, immediately beyond Bristol, upon a high cliff which rises on the north bank of the Avon, attracts notice from the striking beauties of its situation, and is a place of well-known and increasingly-popular resort, though its springs, which originally gave it celebrity, are now little used.

Stroud, nine miles to the southward of Gloucester, situated amongst the declivities of the Cotswold Hills (upon the banks of the little river Stroud, which flows into the Severn), is the centre of an extensive clothing district. The numerous streams which water this tract, and which flow in general through deep ravines, set in motion a great number of mills, and the surrounding valleys present accordingly a scene of busy industry. Among the other places

* It was upon Alney Island that Edmund Ironside and Canute engaged in single combat, in sight of their respective armies, in 1016.

† The unsuccessful siege of Gloucester by the King, in 1643, formed one of the most important incidents of the Civil War. See *ante*, p. 246.

‡ See *ante*, p. 177. The Church contains several monuments in memory of persons who fell in the battle of Tewkesbury. The town was taken from the Royalists by the Parliamentary forces, in 1644.

within this district engaged in the cloth manufacture are Painswick, Bisley, Minchinhampton, Nailsworth, and Dursley. *Cirencester*, in the eastern part of the county, is a town of early British origin, and was an important Roman station, the meeting-point of several of the ancient roads which traversed the island.

IV. NORTHERN DIVISION.

21. NORTHUMBERLAND, a maritime county, and the most northwardly in England, has an area of 1,249,299 acres, or 1,952 square miles. Its limits are defined by natural features to a much greater extent than is the case with most of the English counties: the sea on the east, the Cheviot Hills and the lower course of the Tweed on the north, the Tyne, and its affluent the Derwent, along the chief part of its southern border. To the westward, the high moorlands of the Pennine chain divide Northumberland from the adjacent county of Cumberland.

The surface of Northumberland presents great variety. A large portion of it is high and rugged. The Cheviot Hills, in the north-west, reach in several instances more than 2,000 feet above the sea. The hill more particularly known by the name of Cheviot (a few miles S.W. of Wooler) reaches 2,658 feet. Hedgehope, further to the E., and divided from Cheviot by the valley of a small stream, is 2,347 feet high. Many portions of the Cheviot range exhibit hills of conical shape. They are uniformly covered with a fine green turf, and form excellent sheep-pastures. High tracts of moorland stretch out to the eastward of the Cheviots and the border chain between Northumberland and Cumberland. These moorlands cover at least a third part of the county, advancing, in some places, to within a few miles of the North Sea. Few conspicuous eminences rise above the moorlands in general. The hill called Simonside, however, nearly in the centre of the county (2 miles S.W. of Rothbury), reaches 1,407 feet. Alnwick Moor has an average elevation of eight hundred feet, and the moorlands lying to the south of the Coquet river perhaps vary between 500 and 1,000 feet in elevation. The tract immediately bordering the coast is in general low.

The principal river is the Tyne, which in its lower portions forms the boundary between Northumberland and the adjoining county of Durham. The middle and upper parts of its course are almost wholly within Northumberland. This river is formed by the junction of two streams—the North Tyne and the South Tyne: the former rises upon the southern slopes of the Cheviots, on the Scotch border; the

latter has its source in Cross Fell, amongst the high grounds of the Pennine range. The little stream of the Allen, which joins the South Tyne, and the Reed, which enters the North Tyne, are both within this county.

Besides the Tyne and its affluents, Northumberland is watered by the rivers Blythe, Wansbeck, Coquet, Aln, and Till, the last of which is a tributary of the Tweed. The Tweed, which is principally a Scotch river, forms in its lower course a part of the boundary between Northumberland and the adjoining Scotch county of Berwick.

The most prominent feature in the geology of Northumberland is the coal-field in its south-eastern division, which forms part of the extensive tract elsewhere referred to as the Northumberland and Durham coal-field.* Within Northumberland the coal-field reaches from the Tyne northward to the mouth of the Coquet river, a length of 25 miles: its greatest breadth, along the course of the Tyne, exceeds 18 miles.

The lower members of the carboniferous series—millstone-grit and limestone—rise in successive order, to the W. and N. of the coal-field, and form the high moorlands and hilly tracts that cover nearly all the rest of the county. In the north, a tract of some extent (and within which the highest elevations of the Cheviots are comprehended) consists of trap, which again appears, on the east coast, in the rock of Bamborough. The mineral productions of the county comprehend coal, iron, and lead, with gypsum and zinc. The lead-mines are chiefly within the district of Allendale, in the S.W. corner of the county: zinc is derived from the same locality. Of these productions, coal is by much the most important. The iron produce of Northumberland is comparatively small. Limestone is quarried in many parts of the county.

The soil of this county is equally various as its surface. The tops of the mountains and high moorlands, in the north and west, present only broad heaths, or cold and swampy morasses: further to the eastward the valleys become wider, the sides of the hills have a more verdant aspect, and the soil increases in fertility. Along the coast the soil is in many parts of good quality. The vale of Hexham, which extends along the banks of either branch of the Tyne, above the town of Hexham, is, however, the most beautiful and fertile portion of the county. Arable husbandry is extensively pursued in this and other suitable tracts, and pastoral industry in the more hilly districts. The Cheviot Hills supply excellent sheep pasture.

* See p. 63.

Northumberland is divided into six wards. Its towns are:—

	Pop.		Pop.		Pop.
NEWCASTLE .	109,291	HALTWHISTLE	1,420	BELFORD .	1,857
NORTH SHIELDS		ALLENDALE	6,383	BERWICK-	
and TYNE-		BELLINGHAM	1,594	UPON-	
MOUTH .	33,991	BLYTH .	2,060	TWEED .	13,254
HEXHAM .	4,601	MORPETH .	13,796	WOOLER .	1,911
ROTHBURY .	2,545	ALNWICK .	7,319		

Newcastle and Berwick-upon-Tweed each return two members to the House of Commons. The boroughs of Morpeth and Tynemouth (the latter including North Shields) return one member each. The county returns four members,—two for each of its divisions (North and South).

Newcastle-upon-Tyne, the capital of the county, stands upon the north bank of the river Tyne, twelve miles above its mouth. It is connected by a bridge with Gateshead, in the county of Durham, on the opposite side of the river.* The trade of Newcastle includes an extensive foreign commerce, besides its well-known and characteristic activity in the shipment of coals to London. Numerous important manufactories are carried on, amongst which are glass and iron-works, with copperas, vitriol, white-lead, and various chemical works. Ship-building is also pursued to a great extent. The banks of the Tyne, from a few miles above Newcastle down to North Shields and Tynemouth, at its entrance into the sea, present everywhere a scene of busy industry.†

North Shields, eight miles below Newcastle, resembles that town in the general character of its industry. Besides the export of coals to London, it has both Baltic and American trade. It possesses a spacious quay, the river in front of which forms a secure harbour. *Tynemouth*, below North Shields, and immediately adjacent to it, now forms one town with that place.

Morpeth stands on the river Wansbeck, fourteen miles north of Newcastle. *Rothbury*, in a more inland part of the county, is beside

* Newcastle and Gateshead have together a population of above 142,000.

† The village of Newburn, on the N. bank of the Tyne, 5 miles above Newcastle, is connected with a disgraceful event in English history—the defeat of a detachment of English troops, under Lord Conway, by a body of Scotch under the command of General Leslie. This was in August 1640, two years before the breaking out of the Civil War. The Tyne is fordable at Newburn, at low water. The Scotch sought to pass the river, and succeeded in doing so, in spite of the English forces, posted on the opposite bank. Clarendon (book ii. 89) calls this affair “an infamous, irreparable, rout.” The details are given in Rushworth, Part II. vol. 2.

the river Coquet. *Alnwick*, on the river Aln, further northward, ranked until lately as the county-town: in its neighbourhood is Alnwick Castle, the magnificent seat of the Duke of Northumberland. *Wooler*, still farther north, lies amongst the lower declivities of the Cheviot Hills: the memorable field of Flodden is only a few miles distant. Otterbourne is likewise in this county.* *Hexham*, near the junction of the North and South Tyne, was important in Saxon times: its magnificent priory-church represents the site of a former episcopal see, afterwards united to that of Lindisfarne.

Bamborough, 14 miles N. of Alnwick, is noteworthy for its fine old castle, built on a steep and lofty rock, close to the shore. The little group of the Fern Islands, the resort of vast numbers of sea-fowl, is nearly opposite to Bamborough. A short way further north is Lindisfarne, or Holy Island, with the remains of its ancient monastery. The smaller island of Coquet lies off the mouth of the river Coquet.

Berwick-upon-Tweed stands on the northern bank of the river, immediately above its mouth, and is the frontier town of England in this direction. Berwick was formerly of more importance than at present, and is famous in the history of border-warfare. Halidon Hill is immediately N.W. of the town. The mouth of the Tweed forms an indifferent harbour, and the trade of Berwick is chiefly confined to the export of salmon, corn, and coals, to London and other places.

22. DURHAM has an area of 622,476 acres, or 973 square miles. It is a maritime county, of compact form, and limited nearly throughout by natural features:—to the east, by the sea; to the north, by the course of the Lower Tyne and its tributary, the Derwent; to the south, by the river Tees; and to the west, by the high ground of the Pennine range.

The last-named tract imparts to Durham its most prominent characteristic of surface. The larger part of the county is covered by the hills and moorlands that stretch out to the east of the dividing range.† These moorland tracts reach to within a varying distance of 12 or 15 miles from the sea-coast, gradually lessening in elevation to the eastward. The valley of the river Wear, which traverses the county from west to east, divides the high grounds of Durham into two portions. Those to the northward of the river are known as Weardale Forest: those lying S. of its course are called Teesdale Forest. Both tracts, however, are bare of trees.

* See *ante*, pp. 165 and 180. Also, as to Hexham, p. 174.

† See Table in p. 21.

Among the higher points within or on the borders of the county are Killhope Law (near its north-western limit), 2,196 feet; Collier Law, 1,678 feet; Pontop Pike (10 miles N.W. of the city of Durham, and not far from the E. side of the Derwent valley), 1,018 feet; and Brandon Hill (3 miles W. by S. of Durham), 875 feet. The eastern portion of the county, though exhibiting no conspicuous elevations, is by no means level: it contains numerous hills of moderate height and gentle slope, especially within the tract that adjoins the lower Wear. Painshaw Hill, near the right bank of the Wear, is 400 feet high. The country adjoining the lower Tees, in the south-eastern division of the county, is more generally level.

The two principal rivers of Durham are the Wear and the Tees, the latter of which divides the county from Yorkshire. The whole course of the river Wear is within the county. The Skerne flows past Darlington, and joins the Tees. The Derwent, which forms part of the border on the side of Northumberland, joins the Tyne a few miles above Newcastle.

The geological features of Durham exhibit in succession, along a line drawn across the eastern division of the county, from Stockton northward to Newcastle, new red sandstone, magnesian limestone (with its associated red sandstones of the lower series), and coal. The new red sandstone and red marl occupy the south-eastern portion of the county, from the mouth of the Tees westward to beyond Darlington and northward to the parallel of Hartlepool. The magnesian limestone strata crop out, to the northward, from beneath the red marl, and reach northward to the mouth of the Tyne, along the whole seaboard of the county. The limestone is quarried in several places: in some localities it is sufficiently hard to receive a polish, and is used as marble.

The coal district of Durham forms part of the great Durham and Northumberland coal-field. To the west of the coal-field, the remainder of the county is occupied by millstone-grit and carboniferous limestone, principally the former. The beds of this formation are quarried in many places, chiefly for the grey millstones which they furnish. The carboniferous limestones of upper Weardale and Teesdale abound in metallic veins, and numerous lead mines are worked there: silver is derived, in small quantities, from the lead-ores. Chalybeate and other mineral springs occur in many parts of the coal-field: brine-springs are also found within its limits.

Durham is chiefly a mining and manufacturing county. It ranks seventh, in order of populousness, amongst the counties of England. Coal and iron are the two great staples of its industrial produce. Durham furnishes, besides, a considerable amount of agricultural

produce. Its westerly and hilly portion is chiefly pastoral. The cattle of Durham are of large size, and in great repute.

Durham is divided into four wards. Its towns are : —

	Pop.		Pop.		Pop.
DURHAM	13,743	BISHOP AUCK-		BARNARD	
Chester-le-		LAND	5,112	CASTLE	4,608
Street	2,580	WOLSEINGHAM	4,585	STAINDROP	2,447
SUNDERLAND		STANHOPE	8,882	DARLINGTON	11,228
(with		GATESHEAD	33,589	SEDFIELD	2,192
WEAR-		SOUTH		STOCKTON	10,459
MOUTH)	80,324	SHIELDS	35,223	HARTLEPOOL	12,205

The city of Durham, and the parliamentary borough of Sunderland (in which Monk Wearmouth and Bishop Wearmouth are included), each return two members to the House of Commons. Gateshead and South Shields return one member each. The county returns four members—two for each of its divisions (North and South).

The city of *Durham* stands on a rocky eminence that is almost surrounded by the river Wear. Its most interesting features, in the present day, are found in connection with its magnificent cathedral, the origin of which dates from the close of the 11th century, and its university, an institution of recent foundation (1837). What yet remains of the old Norman Castle—an edifice formerly of great size and strength—is included within the buildings appropriated to the university. Durham has had an important share in the events belonging to English history, subsequent to the Norman period. The origin of the city does not date earlier than the closing years of the 10th century (995), when the monks of Lindisfarne removed from Chester-le-Street thither, and the episcopal see which had been instituted in honour of St. Cuthbert became permanently fixed at Dunholme, or (as it was afterwards called) Durham. Numerous places of historic interest are found in the neighbourhood of the city. Neville's Cross* is immediately adjacent, to the south-westward. Chester-le-Street—a Roman, and afterwards a Saxon, city—is 6 miles distant, to the northward, on the road between Durham and Newcastle. Lanchester,† also a Roman site, is between 7 and 8 miles to the N.W.

The tract of country lying N. and E. of Durham is thickly populated, and is full of the evidences of man's industry, chiefly in connection with the coal and iron trade. These indi-

* See *ante*, p. 165.

† See p. 88.

cations become most numerous in the direction of *Sunderland*, the chief outport of the region, situated at the mouth of the river Wear, upon the south bank of the stream. Adjoining *Sunderland* to the west is *Bishop Wearmouth*, and on the opposite bank of the river, but united to it by a stupendous iron bridge, beneath which vessels of 300 tons burden can pass, is *Monk Wearmouth*, the three forming together one vast town, which constitutes one of the most active scenes of industry on the face of the globe. Thence northward to the banks of the Tyne, are numerous collieries and mining or manufacturing villages, and, on the banks of that river, the large towns of *Gateshead* and *South Shields*—the former opposite *Newcastle*, the latter close beside the river's mouth. *Jarrow*, between *South Shields* and *Gateshead* ($2\frac{1}{2}$ miles S.W. of the former), claims interest from the vestiges, now scattered and confused, of its ancient monastery, founded in the 7th century, and from its connection with the Venerable Bede, who was born in the hamlet of *Monkton*, immediately adjacent.

Stockton, on the left bank of the river Tees, about 4 miles above its mouth, is an important seat of foreign commerce, especially in connection with the Baltic, Dutch, and British North American trade. It has besides extensive manufactures of sail-cloth and coarse linen: ship-building, rope-making, yarn and worsted spinning, iron and brass founding, &c., are largely carried on. Immediately at the mouth of the Tees is *Port Clarence*, a place of growing commercial importance. *Hartlepool*, on the sea-coast, 11 miles to the northward of *Stockton*, is chiefly important for its fishery, and its resort as a provincial watering-place.

Darlington stands on the river Skerne, about 3 miles above the point where it joins the Tees. It has a considerable manufacture of woollen, cotton, and coarse linen goods, together with iron-foundries and glass works. *Sedgefield* is between 8 and 9 miles to the north-west of *Stockton*, and 11 miles S.S.E. of *Durham*. *Bishop Auckland*, on the south bank of the Wear, 10 miles S.W. of *Durham*, is distinguished by its adjacent episcopal palace, the residence of the bishops of *Durham*. *St. Helens Auckland* and *West Auckland* are about 3 miles to the S.W., on the little stream of the Gaunless, which joins the Wear at *Bishop Auckland*.

Barnard Castle is a small town on the north bank of the Tees, deriving its name from a castle originally built by one of the followers of William the Conqueror, and of which there are extensive remains. A few miles distant from *Barnard Castle*, to the north-eastward, and close to the little town of *Staindrop*, is *Raby Castle*, the magnificent residence of the Dukes of Cleveland.

23. **YORKSHIRE** has an area of 3,829,286 acres, or 5,983 square miles. It comprehends, therefore, rather more than a tenth of the entire surface of England and Wales.

This large county is divided into three parts, called Ridings, together with a fourth district, of much smaller dimensions, called the Ainsty. This last includes the city of York. The Ainsty and city are now, however, regarded as belonging to the North Riding. The respective areas of these divisions are : —

	sq. miles	acres
North Riding (including City and Ainsty)	2,114, or	1,352,841
East Riding	1,200 „	768,419
West Riding	2,669 „	1,708,026

The West Riding of Yorkshire alone has, therefore, an area which is greater than that of any single county of England, with the exception of Lincoln. The North Riding is only exceeded in area by the counties of Lincoln, Devon, and Norfolk.

Yorkshire is a maritime county. Its line of coast, which is washed throughout by the German Ocean, is high and rocky from the mouth of the Tees southward to Flamborough Head : thence to the entrance of the Humber the coast is low, and has been subject in many parts to extensive ravages from the adjacent waters. The shores of the Humber are also low. The inland boundaries of the county are for the most part defined by natural features. Upon the north, the course of the river Tees separates Yorkshire from Durham. On the west, the high moorlands of the Pennine range separate, in a general sense, the counties of York and Lancaster ; but the line of division does not coincide in all parts, either with the highest crest of elevation, or with the watershed between the western and eastern seas. Portions of the rivers Lune, Hodder, and Ribble, all of which carry their waters to the Irish Sea, form, for short distances, the western boundary of Yorkshire. Along the southern border of the county, the frontier line is in general artificial, excepting where, in the south-east, it is marked by the estuary of the Humber.

The line of division between the North Riding and the other portions of the county is marked, proceeding from west to east, by the high grounds that border to the southward the upper portion of the Yore valley, then (from a point a little below the town of Masham) by the course of the river Yore and that of the Ouse, as far as the city of York : an artificial line extends from the Ouse, at York, to Stamford Bridge, on the Derwent ; thence the line follows the course of the Derwent, to within a short distance of the sea-coast, which it touches immediately to the north of Filey Bay.

The East Riding is divided from the North Riding by the line just mentioned, between the city of York and the sea-coast, and from the West Riding by the course of the river Ouse, from York downwards to its entrance into the Humber estuary.

The great features in the physical aspect of Yorkshire are — 1st, in the centre, *the great Plain or Vale of York*, watered by the Ouse and its numerous affluents; 2nd, in the west, *the high grounds belonging to the Pennine range*; and, 3rd, in the east, the elevated tracts respectively distinguished as *the North York Moors*, and *the Yorkshire Wolds*.

The extensive Vale of York, one of the most important among the natural divisions of England, has been described elsewhere.* It reaches, in the direction of north and south, through the entire length of the county, from the banks of the Tees southward to the borders of Nottingham and Derby. The widest portion of the plain is in the parallel of the Humber, where its extent from east to west is about forty-five miles; further northward, its limits east and west of the city of York are about thirty miles. The central portion of the plain is only moderately elevated above the sea-level, and it rises with a gradual ascent towards the high grounds upon either side. Along the lower course of the Ouse, as that river approaches the Humber estuary, the ground becomes perfectly level, and is in many places marshy. The tract of country between the Ouse and the Trent, immediately above their junction, and for some distance westward, along the courses of the Aire and the Don, contains marshlands of considerable extent.

The general features of the Pennine range have been already described.† Those portions of it that are within Yorkshire comprehend a greater number of elevated summits, in close proximity, than any other part of the mountain-region. Amongst these are found, within or on the border of the North Riding, the hill known as Nine Standards, 2,175 feet; Water Crag, 2,192 feet; Shunnor Fell, 2,350 feet; Cam Fell, 2,245 feet; Great Whernside, 2,263 feet; and Little Whernside, 1,958 feet. The two last mentioned are near the head of Nidderdale (a short way N.E. of Kettlewell) and, together with Cam Fell, lie on the line of border between the North and West Ridings.

Within the West Riding are Whernside, 2,384 feet; Ingleborough, 2,361 feet; and Pen-y-gent, 2,270. These high points adjoin the upper part of the valley of the Ribble — Whernside and Ingleborough to the westward, Pen-y-gent upon its eastern side. Whernside

* Chap. ii. p. 37.

† See p. 20.

is the highest point within the county. To the south of these elevated summits, the high lands cover a vast space, forming extensive moors, which are intersected by deep valleys. The height of the moors gradually diminishes to the eastward, as they subside into the York plain. Rumbold's Moor (to the east of Skipton), between the valleys of the Aire and Wharfe, has an elevation of 1,308 feet. Upon the opposite side of Wharfedale is Knaresborough Forest. On the western borders of the county, adjoining Lancashire, is Bowland Forest, which has a considerable elevation.

The tract between Knaresborough and Bowland Forests, within the West Riding, and inclusive of the sources of the Ribble, the Wharfe, the Aire, and the Nidd, is known as the district of Craven. This tract displays the finest scenery in the county. Farther south, along the line of the Yorkshire and Lancashire border, the high grounds assume in some places the character of a ridge. Blackstone Edge, west of Huddersfield, is of great height. On the south-west border of the county, towards Cheshire, is Holme Moss, at an elevation of 1,859 feet above the sea; the Huddersfield turnpike-road crosses this tract at a greater height than any other road in the kingdom. The Bradfield Moors, to the west of the Don valley, are upwards of 1,200 feet above the sea. Farther south, along the line of the Yorkshire and Derbyshire border, the ground is still more elevated. The highest point of Stanedge (or Stanage Edge), in the direction of S.W. from Sheffield, is 1,463 feet.

The tract described as the North York Moors, or Eastern Moorlands, is entirely within the North Riding. The high grounds in this part of Yorkshire occupy the tract of country which extends from the mouth of the Tees to the valley of the upper Derwent, approaching close to the sea-coast, upon which they terminate, in many places, in bold and conspicuous headlands. The whole region is intersected by deep valleys, each the bed of a mountain stream, and exhibits throughout a wild and picturesque aspect. Among the highest points within its limits are Botton (or Burton) Head, 1,485 feet; Looschoe Hill, 1,404 feet; Black Hambleton, 1,246 feet; and Roseberry Topping, 1,102 feet. This elevated tract overlooks, to the northward, the fertile vale of Cleveland, which slopes towards the banks of the Tees.* The vale of Pickering

* A range of moderately elevated land which sweeps, in nearly a semicircular curve, round the south-western border of the high tract above described — bounding in that part the valley of the Ouse upon its eastern side — is sometimes described under the name of the Howardian Hills, from Castle Howard, a few miles west of the town of New Malton, behind the extensive grounds of which it passes.

intervenes between the Yorkshire Moorlands and the tract of the Wolds.

The Yorkshire Wolds, which form the most conspicuous feature of the East Riding, are chalk downs, which rise with a somewhat steep ascent above the plain of York. Their elevation seldom exceeds 600 feet, but Wilton Beacon (12 miles E. of York) reaches 809 feet. To the east of the Wolds is the low tract known as Holderness, the highest point of which is less than 150 feet above high water.

Rivers.—By much the greater part of Yorkshire—not less than seven-ninths of its whole extent—falls within the basin of the Humber, and, with the exception of the small tract of country lying between the Wolds and the sea, the whole of this extensive area has its waters carried off by the channel of the Ouse.* All the rivers that water the extensive plain of York converge to a point where the present channel of the Don joins the Ouse, and at which the town of Goole is situated.

The principal rivers that unite their waters in the channel of the Ouse—named in succession round the circumference of an imaginary circle commencing near the east coast of the county, and of which the city of York may be taken as the centre—are the Derwent, the Swale, the Yore, the Nidd, the Wharfe, the Aire, the Calder, and the Don. To these may be added a great number of smaller tributary streams, some of which are by no means unimportant, as the Wiske, which joins the Swale on its left bank, the Foss, which joins the left bank of the Ouse at the city of York, with the Went and the Dearne, both of which unite their waters to the Don.

The Swale and the Yore join their waters a few miles below the town of Boroughbridge; the single channel takes a little farther down the name of Ouse, which thence flows past York to its junction with the Trent, at the head of the Humber estuary. The Yore is navigable for barges up to Ripon, and the Swale for several miles above the point of junction. Vessels of 150 tons burden ascend the Ouse as high as the city of York. A few miles above York the Ouse is joined by the Nidd, which flows through Netherdale (or Nidderdale), and passes the towns of Ripley and Knaresborough: the high ground in which the Nidd rises is called Netherdale Forest.

About ten miles below York the Ouse is joined by the river Wharfe, one of the most beautiful streams in the island. The Wharfe rises on the northern side of Pen-y-gent, and flows in the upper portion of its course through a narrow valley called Langstrothdale. It flows south-eastwardly by Bolton Abbey and Ilkley,

* The Trent, which unites with the Ouse to form the Humber, derives its waters from a more southwardly region.

and afterwards, in an eastward direction, past Otley, Wetherby, and Tadcaster, up to which place it is navigable. The valley of the Wharfe is throughout a rich, fertile, and beautiful tract.

The river Aire joins the Ouse about 30 miles below York, passing on its way the town of Leeds, up to which place it is navigable. The source of the Aire is in Malham Tarn—a small lake lying within the district of Craven, a few miles E. by N. of Settle; but the river runs underground for a distance of about a mile to the south of the Tarn, and reappears at the base of a high perpendicular rock. The only important tributary it receives is the Calder, which joins it on the right bank at Castleford.

The Calder rises immediately within the Lancashire border, upon a high tract of moss in which also originates another river of the same name, the West Calder, which passes the town of Burnley and joins the Ribble. The Yorkshire Calder flows in the upper part of its course through the deep and narrow valley of Todmorden, and afterwards passes the towns of Dewsbury and Wakefield. It is navigable up to the last-named place, and the navigation is continued thence by means of the Rochdale canal, which nearly coincides with the course of the river. The Calder receives several small tributaries from the high lands on either side of its course: one of these is the Hebble, which passes the town of Halifax; another is the Colne, which flows northward by Huddersfield.

The river Don rises near the border of Cheshire, a few miles west of Penistone. Thence it flows in a S.E. direction to Sheffield, above which town it receives on its right bank the united stream of the Rivelin and Loxley rivers. At Sheffield the Don is joined by the river Sheaf, which comes from the Derbyshire highlands. The farther course of the Don is to the north-eastward, past the towns of Rotherham and Doncaster. At Rotherham, a few miles below Sheffield, it receives the river Rother, which has the chief part of its course in Derbyshire. Lower down, the Don is joined upon its left bank by the Dearne and the Went, the former of which passes Barnsley. It finally joins the channel of the Ouse, at the town of Goole.* The Don is navigable up to Tinsley, a few miles below Sheffield, to which town the navigation is continued by means of a canal.

The little river Torne, which rises near the town of Tickhill and flows into the Trent, has its course partly within the county, and

* The Don formerly joined the channel of the Aire a few miles above the point where that river unites its waters to the Ouse: its original channel has become silted up, and its waters now flow directly to the Ouse, passing for the last five miles along the bed of an artificial cut, called the Dutch river.

partly along the border line between the counties of York and Lincoln. The lower portion of this stream bears the name of the Old Don.

The upper portions of the Ribble, and of its tributary the Hodder, are within the West Riding of Yorkshire. The Ribble rises not far from the source of the Wharfe, and passes the town of Settle. The river Lune forms part of the county boundary, at the extreme north-western angle of the West Riding: it receives several small tributaries from within the Yorkshire border, which bear the names of the Wenning, the Greta, the Dee (flowing through Dentdale), and the Rawther, or Rother. The Greta flows from Whernside, and passes the village of Ingleton, near the foot of Ingleborough.*

The Tees forms the boundary of Yorkshire on the side of Durham. It receives, within the North Riding, the little streams of the Lune (flowing through Lune Dale), the Balder, the Deepdale, and the Greta—all of them flowing through valleys that are included within the Pennine region; and much lower down, towards its outlet into the sea, the river Leaven, which comes from the north-westwardly slopes of the Eastern Moorlands.

The river Esk (within the North Riding) flows to the eastward, along the northerly base of the Eastern Moorlands, through Eskdale, and enters the sea at Whitby. Numerous affluents, each watering one of the smaller lateral dales of the same region, join its channel.

The river Hull (within the East Riding) drains the greater part of the tract lying to the eastward of the Wolds, and flows southward into the Humber, which it joins at the town of Kingston-upon-Hull. The East Riding contains, within a distance of less than a mile from the sea-coast, the most considerable lake belonging to Yorkshire—Hornsea Mere, which is upwards of 400 acres in extent of surface, and contains abundance of fish.

The *geology* of Yorkshire is very varied and comprehensive. This large county exhibits strata belonging to nearly the entire series of secondary rocks, from the chalk downwards to the new red sandstone; together with the rocks classed as belonging to the palæozoic period, as far down in the series as from the magnesian limestone to the lowest member of the carboniferous group, inclusive. The low tract of Holderness, in the East Riding, with the marshy lands at the head of the estuary of the Humber and elsewhere, belong to the recent period of alluvial and diluvial deposit. These various formations, speaking generally, follow in successive order from east to west, that is, crossing the country from the shore of the German Ocean westward.

* Another river Greta (within the North Riding) is noticed below. The latter is the Greta of Scott's "Rokeby."

The low marsh lands of Holderness, and other tracts in the eastern division of the county, are post-tertiary or modern; the Wolds, the elevated moorlands in the extreme east of the North Riding, and the central vale, are composed of secondary strata; and the high grounds of the west (belonging to the Pennine range) belong to the carboniferous period.

The Wolds consist throughout of chalk, which reaches in this tract of country its northernmost limit in England. Speeton Cliff, a few miles N.W. of Flamborough Head (nearly midway between Flamborough and Filey) is the most northerly point at which the chalk appears. The tract of the North York Moors, with the adjoining low grounds to the south as far as the base of the Wolds, is composed of oolitic strata. All the members of the oolitic series — Kimmeridge clay, calcareous grit, Oxford clay, and great or lower oolite — are here represented. The lowest of these are succeeded, both on the north and west, by lias, shale, and limestone, followed by red marl and new red sandstone. The lias and inferior oolite beds of the Cleveland district (between the North York Moorlands and the lower course of the Tees) abound in valuable ironstone, which is worked on a scale of great extent.

The central portion of the York plain, from the Tees to the southern extremity of the county, is composed of new red sandstone. This, nearly throughout, is adjoined on its western side by a belt (in some parts several miles in breadth) of magnesian limestone and lower new red sandstone, the stone of which is quarried in many places, for building and other purposes.

Strata belonging to the carboniferous series fill up all the remainder of the county, embracing above five-sixths of the West Riding, and the westernmost portion of the North Riding. This tract includes by much the larger part of the great Derbyshire and Yorkshire coal-field,* which extends from the neighbourhood of Leeds on the north to the extreme southern limit of the county, and between the towns of Pontefract and Halifax in the direction of east and west. The millstone grit, which succeeds the coal-measures both to the north and west, extends over the high moors in the south-west of the county, as well as a portion of the high grounds farther north. But the highest parts of the mountain-region, about the sources of the Aire, the Wharfe, and the Ribble, belong to the mountain limestone, the peculiar characteristics of which, in its cavernous formations, and its lofty and precipitous "sears," are fully developed there.

* This coal-field supports 541 collieries, which in 1857 produced 12,562,882 tons of coal. Of this quantity Yorkshire (347 collieries) produced 8,875,440 tons of coal, Derby and Notts (194 collieries), 3,687,442 tons of coal. — Hull, *Coal-Fields of Great Britain*, 1861.

The produce of the Yorkshire coal-field includes bituminous or household coal, steam-coal, cannel-coal, and anthracite, the description varying in different localities. A great deal of that worked in the neighbourhood of Barnsley, and about Silkstone (to the west of that town), is now sent to the metropolis for household use.

Ironstone of excellent quality accompanies the lower part of the coal deposit, and the abundance of limestone in the neighbourhood enables it to be worked to great advantage. The millstone-grit supplies good building stone, besides excellent grindstones. The mountain limestone yields abundance of flagstones, as well as, in some places, black marble. Ores of lead and calamine (or zinc) occur in the north-west of the county, within the same formation. There are lead mines in the neighbourhood of Pateley Bridge, on the river Nidd, and elsewhere. The iron-beds of the Cleveland district are of vast extent and growing importance.

The agriculture of Yorkshire is of very various description. The soil of the great York vale is generally fertile, and it is there that the chief part of the arable land is found. The Cleveland district comprehends also a considerable extent of land under the plough. Throughout the county, however, the proportion of land in grass greatly exceeds that devoted to arable husbandry. The many large towns, with their numerous populations, necessitate the rearing of cattle on a very extensive scale, as well as the attendant pursuits of dairy-farming. Hogs are fattened in the West Riding in great numbers, the hams being generally cured for the London market. The high moors in the west and elsewhere are naturally heathy and barren, but many portions of them have been reclaimed.

The West Riding of Yorkshire is chiefly manufacturing in the character of its industry; the North and East Ridings are principally agricultural. The population of the West Riding alone is greater than that of any single county, with the exception of Lancashire and Middlesex, and the aggregate population of the county is above a ninth part that of all England and Wales.

The West Riding of Yorkshire is essentially a manufacturing district. It is the great seat of the woollen manufacture, as Lancashire is of the cotton trade. Of its total population, above 250,000 persons are engaged in various departments of the wool and worsted manufactures. The towns of Leeds, Bradford, Huddersfield, and Halifax, are the chief centres of this branch of industry; and a great number of smaller towns and populous villages, the people of which are similarly engaged, are found within the adjacent districts, and thence up to the Lancashire border. Bradford is the great seat of the making of woollen stuffs, merinos, and worsted fabrics in general; Leeds and Huddersfield of woollen cloths. Halifax and its neigh-

bourhood produce carpets and some of the finest kind of stuff goods; Saddleworth excels in kerseymeres and broadcloths; Dewsbury and its neighbourhood in the heavier kinds of woollen goods, as blankets, carpets, and coarse woollen cloths. The chief district for blankets and flushings lies between Leeds and Huddersfield. Wakefield is celebrated for its wool-fair and the skill of its cloth-dyers.

There are cotton factories at various places in the West Riding, and also numerous flax-mills. Leeds and Barnsley are the chief seats of the linen manufacture, the former for spinning and the latter for weaving. Barnsley, especially, is distinguished for the excellence of its linen cloths. The manufacture of cutlery and plated goods, with a vast variety of works in iron and steel, constitutes another branch of industry that distinguishes the West Riding: Sheffield and Rotherham are the chief seats of this. Bradford and other places in its vicinity have also extensive iron-works.

Yorkshire is divided into three Ridings and twenty-five wapentakes. Of the latter, the North Riding includes ten, the East Riding six, and the West Riding nine. Besides these divisions, there are some older territorial or feudal divisions, the names of which are locally recognised, and frequently referred to, although they no longer retain any legal significance.* Of these the principal are—

CLEVELAND, a district of the North Riding, extending along the coast from the mouth of the Tees eastward to the neighbourhood of Whitby, embracing the plain or valley that is limited on the south by the North York Moorlands.

Craven, a district of the West Riding, embracing its north-western portion, and inclusive of the elevated tract in which the rivers Ribble, Wharfe, Aire, and Nidd, have their origin.

HALLAMSHIRE, in the West Riding, inclusive of Sheffield and the adjoining parishes to the north and west.

HOLDERNESS is that portion of the East Riding which lies to the east of the river Hull, and which extends along the coast from Bridlington Bay to Spurn Head.

RICHMONDSHIRE embraces the western portion of the North Riding, including the extensive tract of which the town of Richmond forms the centre.

* That is, for civil purposes. Cleveland, Craven, and Richmondshire, are still ecclesiastical divisions, each of them giving title to an archdeaconry. The large area known as Richmondshire was erected into an earldom by William the Conqueror. The limits of some of these divisions are not capable of precise definition; they are given, however, with greater fullness in the excellent article on "Yorkshire" in the Imperial Cyclopædia of Geography.

1. NORTH RIDING.

The North Riding includes the following towns:—

	Pop.		Pop.		Pop.
YORK *	40,377	BEDALE .	1,200	HELMESLEY .	3,483
MASHAM .	2,695	NORTH		YARM .	1,647
MIDDLEHAM	966	ALLERTON	4,755	MIDDLES-	
LEYBURN .	800	THIRSK .	5,351	BOROUGH .	7,983
ASKRIGG .	633	EASINGWOLD	2,717	STOKESLEY .	2,446
HAWES .	1,708	NEW MALTON	8,072	GUISBOROUGH	2,308
MUKER .	1,321	PICKERING .	2,511	EGTON .	1,129
REETH .	1,344	KIRBY MOOR-		WHITBY .	12,054
RICHMOND .	4,290	SIDE .	2,611	SCARBOROUGH	18,380

The city of York, and the boroughs of Richmond, New Malton, and Scarborough, each return two members to the House of Commons; North Allerton, Thirsk, and Whitby, return one member each. Two members are returned for the North Riding of the county.

York, situated on the banks of the Ouse, in the midst of the beautiful plain distinguished by its name, is a very ancient city, the second in the kingdom in point of rank, though surpassed by many others in wealth and present importance.† It is chiefly distinguished for its magnificent minster or cathedral, one of the finest Gothic edifices in the world. Its ancient castle is now used as a prison. Portions of the former walls and gates of the city are still standing. York forms a sort of metropolis of the northern counties, and is also a county of itself. The village of Long Marston is a few miles to the west of the city.

Richmond, on the north bank of the river Swale, though only of moderate size, possesses many features of interest. Its origin is said to be due to one of the companions and kinsmen of William the Conqueror. The extensive ruins of its old Norman castle, situated on a steep rock that overhangs the river, attest the strength which it formerly possessed. The surrounding country is distinguished by great scenic beauty. *Middleham*, 10 miles S. by W. of Richmond, on the right bank of the Ure, also derives interest from the ruins of its ancient castle, the patrimonial inheritance of the "king-maker" Warwick, and afterwards the residence of the Duke of Gloucester (Richard III.).

North Allerton, on the little river Wiske (an affluent of the Swale),

* The city and ainsty of York are united, for electoral purposes, to the North Riding.

† See *ante*, pp. 92, 191.

33 miles N.W. of York, has been mentioned elsewhere.* *Thirsk*, to the south-eastward of North Allerton, and eight miles nearer to York, is on the stream of the Codbeck, another of the feeders of the Swale.

Scarborough, *Whitby*, and *Middlesborough*, are sea-port towns situated on the coast of the North Riding. Scarborough is chiefly resorted to for its medicinal springs, and as a summer bathing-place. Whitby, a town of very ancient origin, seated at the mouth of the Esk, has extensive alum-works in its vicinity, the produce of which is largely exported. Middlesborough, at the mouth of the Tees, has grown rapidly in population within the last few years, owing to the importance attaching to it as the chief outlet for the valuable iron ores of the Cleveland district.

2. EAST RIDING.

The East Riding is divided into ten wapentakes. It includes the following towns:—

	Pop.		Pop.		Pop.
BEVERLEY .	9,654	MARKET		HORNSEA .	945
HULL . .	98,994	WEIGHTON	2,427	BRIDLINGTON	6,848
GREAT		HOWDEN .	2,235	FLAMBOROUGH	1,297
DRIFFIELD	3,792	SOUTH CAVE	1,421	HUNMANBY .	1,346
POCKLINGTON	2,761	HEDON .	1,020	FILEY . .	1,511
		PATRINGTON	1,827		

Beverley and Kingston-upon-Hull are parliamentary boroughs, each returning two members. Two members are returned for the East Riding of the county.

Beverley, though of much smaller size than Hull, and in the present day of greatly inferior commercial importance, is of earlier origin than that town. It ranks as the capital of the East Riding, the court for the election of knights of the shire, as well as the quarter-sessions, being held there. Beverley is chiefly interesting from its ancient minster, or collegiate church, founded in the early part of the ninth century. The townsmen of Beverley had many privileges conferred on them by early English monarchs, from Athelstan downwards.

Hull (properly *Kingston-upon-Hull*), 34 miles to the south-east of York, stands on the north side of the estuary of the Humber, at the mouth of the small river Hull. It is one of the principal sea-ports in the kingdom, and possesses a range of extensive docks and warehouses, with ship-building yards and every facility for extensive commercial undertakings. Hull is the principal seat of the Baltic trade, and has also commercial relations with other parts of Europe, as well as with the West Indies and the countries of South America. Among

the many changes which, owing to natural causes, have occurred in the low coasts near the mouth of the Humber, the port of *Ravenspur* (or Ravensburgh), the landing-place of Henry of Bolingbroke upon the expedition which resulted in the dethronement of Richard II. (A.D. 1399), and of Edward IV. on his successful return from the continent (A.D. 1471), has entirely disappeared, having been swept away by the sea.

Bridlington (or Burlington, as it is locally called), a sea-port town of early origin—dating back to Saxon, if not to Roman, times—derives its chief support in the present day from the extensive resort of visitors thither during the bathing season. Its magnificent priory church has undergone recent restoration.*

3. WEST RIDING.

The West Riding is divided into nine wapentakes. It includes as many as twenty-nine market towns, besides a great number of large and populous villages, situated within the manufacturing districts. These comprehend—

	Pop.		Pop.		Pop.
WAKEFIELD .	23,181	BINGLEY .	13,437	WETHERBY .	1,494
Osset .	6,266	BRADFORD .	106,218	TADCASTER .	2,979
DEWSBURY .	14,049	North Bier-			
Batley .	9,308	ley .	11,710	Pately Bridge	
Birstall .	36,222	Morley .	4,821	RIPLEY .	1,286
Heckmond-		Wortley .	7,896	HARROWGATE	3,678
wicke .	4,540	LEEDS .	207,153	KNARES-	
Cleckheaton	5,173	PONTEFRAC	5,340	BOROUGH .	5,404
Mirfield .	6,966	Knottingley	4,540		
Elland .	7,225	SNAITH .	11,365	RIPON .	6,172
Sowerby Bridge	4,365			BOROUGH-	
Heptonstall .	4,177	PENISTONE .	6,302	BRIDGE .	1,095
HALIFAX .	37,015	SHEFFIELD .	187,157	Aldborough .	2,438
HUDDERSFIELD	34,874	ROTHERHAM	18,922	CAWOOD .	1,195
Almondbury	41,804	Ecclesfield .	16,870	SELBY .	5,340
Holmfirth .		DONCASTER	16,430	SHERBURN .	3,754
Marsden .	2,665	THORNE .	2,820	GOOLE .	4,722
				SETTLE .	1,976
SADDLEWORTH	17,799	BARNESLEY .	14,913		
		TICKHILL .	2,159	Gisburn .	1,976
SKIPTON .	4,962	KETTLEWELL	607	DENT .	1,630
KEIGHLEY .	13,050	OTLEY .	12,385	SEDBERGH .	4,574

* Bridlington is of frequent mention in earlier history. Henrietta Maria, the queen of Charles I., landed there in 1643 with stores brought from the Low Countries for her husband's use. In 1779, a sharp fight took place in the adjacent bay, off Flamborough Head, between the squadron under Paul Jones and two convoy ships of the Baltic fleet, in which the latter were obliged to strike their colours.

Leeds, Sheffield, Bradford, Halifax, Ripon, Knaresborough, and Pontefract, each return two members to the House of Commons. Huddersfield and Wakefield return one member each. Four members are returned for the West Riding, which, for parliamentary purposes, forms two divisions (Northern and Southern), each returning two members.

Wakefield, on the north bank of the river Calder, ranks as the capital of the West Riding, though below many of its other towns in point of population. Wakefield is 9 miles S.E. of Leeds, and 27 miles from York in a S.W. direction. It had formerly an extensive manufacture of woollen stuffs and light fabrics: this is now chiefly removed to Bradford and Halifax, but the making of woollen cloth is carried on, and also the spinning of woollen and worsted yarn, as well as the dyeing of woollen stuffs. The town has likewise a great trade in coal and corn, with various agricultural produce.

Dewsbury, also within the woollen-manufacturing district, is on the north bank of the Calder, 30 miles S.W. of York and 8 miles S. by W. of Leeds. Blankets, carpets, and the inferior descriptions of woollen cloths, are made here and at numerous places in the immediate neighbourhood.* Among these are Batley, Heckmondwicke, Cleckheaton, and others.

Halifax ranks next to Leeds and Bradford as a seat of the wool and worsted manufactures. It stands on the banks of the small river Hebble, which joins the Calder, at a distance of 14 miles to the S.W. of Leeds, and 37 miles in the same direction from York. The Hebble flows through the eastern part of the town; it is not navigable, but a branch canal connects Halifax with the Calder and Hebble and Rochdale canals, and thence with the other canals of the West Riding.

The chief articles manufactured in Halifax and its neighbourhood are worsted stuffs of various kinds, including carpets, together with various fabrics composed of mixed silk and worsted, as bombazines, crapes, damasks, &c. The woollen manufacture of Halifax originated in the time of Henry VII., when the Flemings sought refuge in England from the persecutions to which they were exposed in their native country.

Sowerby, a short distance from the right bank of the Calder, is about 3 miles to the S.W. of Halifax. Sowerby Bridge, a place of comparatively recent growth, is somewhat nearer to that town, and immediately adjoins the Calder. Both *Hobden Bridge* and

* Dewsbury is a place of ancient origin, and is celebrated in early ecclesiastical history. Paulinus, the first Archbishop of York, preached here, and converted Edwin, the Saxon King of Northumbria, A. D. 627.

Heptonstall are in the valley of the same river, higher up, to the W. by N. of Halifax. *Elland* is on the south bank of the Calder, about 4 miles S. by E. of Halifax. All these are populous villages, the inhabitants of which are employed in the worsted and cotton manufactures. There are large iron works at Sowerby Bridge, with extensive stone quarries in its neighbourhood.

Huddersfield, also a chief seat of the woollen manufacture, is to the south-eastward of Halifax. It is 35 miles S.W. of York and about 14 miles distant from Leeds. Huddersfield stands in the valley of the river Colne, at the point where that stream is joined by the Holme. The Colne comes from the S.W., the Holme from the south; below Huddersfield the Colne flows to the north-eastward and joins the Calder.

The town of Huddersfield has increased greatly in size within recent years; the houses are chiefly built of stone, the streets are clean and well-paved, and the general aspect of the place is attractive. There is a large cloth hall for the transaction of the business connected with the staple produce of the town. The chief productions of Huddersfield are woollen cloths, serges, kerseymeres, corduroys, and various mixed fabrics of worsted, silk, and cotton, such as shawls and waistcoatings. Huddersfield is probably of Danish origin. Amongst the many populous villages in its neighbourhood are Almondbury, 2 miles to the S.E., and Holmfirth, 7 miles to the southward, both of them engaged in the woollen trade. There are numerous flour and fulling mills at Holmfirth, as well as at various places on the banks of the Holme and the Colne.

Saddleworth is on the south-western border of the county, near the source of the river Tame, one of the chief affluents of the Mersey. Saddleworth is itself merely a village, but its name is given to a busy manufacturing district of several miles in extent, and containing many populous villages, the inhabitants of which are engaged in the woollen and cotton manufactures. Among these are Delph, Dobcross, Upper Mill, and New Delph. There are coal-mines and stone-quarries within the district.

Skipton, situated within the valley of the river Aire, upon a small affluent of that stream, is an old town of frequent mention in English history, owing to the importance attaching to its castle, portions of which are incorporated within a modern residence built upon the site of the ancient stronghold.* Both *Keighley* and *Bingley*, to the south-

* Skipton Castle withstood a three years' siege from the Parliamentarians, but was compelled to surrender in 1645. The ruins of Bolton Abbey, beside "the banks of crystal Wharfe," are 5 miles N. E. of Skipton.

eastward of Skipton, are also in Airedale—the former on a small affluent of the river Aire, the latter adjoining the main stream of that river, upon its northern bank. Keighley has some worsted and cotton manufactures, with paper-mills, and iron foundries. Bingley (only 12 miles distant from Leeds, and 5 miles N.W. of Bradford) has extensive manufactures of worsted yarn, with cotton mills, &c., both in the town itself and the neighbouring district, which becomes more populous and manufacturing as the great centres of industry in the West Riding—Leeds and Bradford—are approached.

Bradford, 9 miles W. of Leeds, and 34 miles to the S.W. of York, is only second in importance to Leeds as a seat of the woollen trade. It lies about three miles to the southward of the Aire, upon a small brook which flows into that river.

Leeds and Bradford, though both engaged in the woollen manufacture, differ strikingly in the characteristics of their industry. The chief branch of the manufacture pursued in Bradford and its neighbourhood is that of worsted stuffs. The spinning of worsted and woollen yarns employs a great number of persons. The iron-trade is also carried on, and there are extensive foundries, with numerous collieries, in the vicinity of the town.

Bradford has increased greatly in size and population within a recent period. There are numerous large manufacturing villages and townships in its neighbourhood, which, with Bradford, have a total population of more than 120,000, upwards of a third of whom are engaged in the worsted and stuff manufactures. One of the most important of these is North Bierley, 2 miles S.E. of Bradford. Besides its share in the woollen trade, this place possesses iron-works, mines, quarries, and coal-pits.

Bradford dates its origin as far back as the Saxon period, and was early a seat of manufacturing industry. During the civil war its inhabitants espoused the Parliamentary cause, and on two occasions defeated the Royalists. Under the leadership of Fairfax they took possession of Leeds, at that time in the hands of the cavaliers, but were shortly afterwards defeated by the Royalists under the Earl of Newcastle, on Adwalton Moor, in the neighbourhood.

Leeds stands beside the river Aire, 24 miles S.W. of York, and at a distance of 205 miles (by railway) from London. It lies chiefly on the north bank of the river, which is crossed by several bridges, two of them suspension bridges. Leeds is irregularly built, the streets for the most part narrow and dirty, and the houses crowded closely together. Its general aspect is uninviting, but some of the public buildings are fine edifices, and many improvements in the general appearance and condition of the town have been made within recent years.

The most important buildings in Leeds are the cloth-halls, in which the sales of the woollen cloths from the manufacturers to the merchants are chiefly effected. There are several of these halls which are of large size, and of substantial (though plain) architecture. The making of woollen cloth is the branch of the wool-trade most extensively pursued at Leeds. The cloth factories are immense buildings, and the entire process, from the breaking of the wool to the finishing of the cloth, is carried on in some of them. The dye-houses and dressing shops are on a very extensive scale. Great quantities of worsted goods are brought to Leeds from other parts of the Riding to be dyed and dressed. Flax-spinning is another branch of industry extensively pursued; and there are, besides, manufactures of steam-engines, of silk-thread, felted-cloth and carpets, glass and earthenware, leather, &c.

Pontefract, a town of great historical fame, lies 8 miles to the east of Wakefield, not far from the south bank of the Calder. It is 21 miles distant from York, in the direction of S.S.W. Pontefract is at present chiefly noted for its extensive nursery-gardens and liquorice-grounds; there are coal-mines, potteries, with iron and brass foundries, in the neighbourhood, and the town has great trade in corn. Pontefract Castle, now in ruins, was the scene of the imprisonment and death of Richard II. During the civil wars it was alternately in the hands of the Royalist and Parliamentary parties, and was several times besieged. It was subsequently dismantled by order of the parliament. Its area is now chiefly occupied by gardens, and by a quarry of filtering stones, which are much in request. *Knottingley*, a populous village on the south bank of the Aire, is $2\frac{1}{2}$ miles to the eastward of Pontefract.

Sheffield, near the southern border of the county, at the junction of the little river Sheaf with the Don, derives importance from a branch of industry totally distinct from that of the places mentioned above. It is the great seat of the manufacture of cutlery, with plated goods and metal-ware in general, including iron plates for ships' sides, and an immense variety of work in iron and steel—the produce of the forge, aided by the marvellous powers supplied by steam.

Sheffield is 45 miles S.S.W. of York, and 178 miles distant from the metropolis by railway. It is enclosed by an amphitheatre of hills on all sides but the north-east. Only four other towns in England exceed Sheffield in amount of population.* It is generally

* These are Manchester, Liverpool, Birmingham, and Leeds. Of the early condition of Sheffield, see chap. x. p. 194.

well built, and has become much improved in external appearance, as well as greatly increased in size and population, within recent years.

Sheffield is the capital of Hallamshire, a district which includes several of the adjoining parishes, and which possesses manorial rights of very ancient date. Sheffield Manor, a former residence of the earls of Shrewsbury, near the town, was visited by Cardinal Wolsey after his arrest. In Sheffield Castle, of which no vestige now remains, Mary Queen of Scots passed (with the exception of a few brief intervals) fourteen years of her lengthened period of confinement in England. Sheffield was the scene of contest during the war between Charles I. and the Parliament, and its castle—then held by the Royalist party—was obliged to surrender to the Parliamentary forces in 1644, after the battle of Marston Moor. It was subsequently demolished, and its site, as well as that of the park and manor-house, is now included within the wide-spreading town.

Rotherham is also situated on the Don, 6 miles below Sheffield, and at the mouth of the river Rother. *Masborough*, on the opposite or north bank of the Don, is joined to Rotherham and forms a suburb of the town. Rotherham has important iron-works, with extensive collieries in the neighbourhood.

Doncaster, on the right bank of the Don, is 14 miles below Rotherham, and about 30 miles to the S. of York. It is well built, clean, and airy, and one of the most attractive towns in the kingdom in external appearance. Doncaster has some iron and brass foundries, but derives more note from its corn market and its annual races. It was the *Danum* of the Roman period, and lies upon the line of one of the great Roman roads which cross this part of the island. The village of *Conisborough*, a few miles above Doncaster, near the south bank of the Don, has the ruins of an ancient castle, which appears to have been a place of royal residence both in early British and Saxon times.

Barnsley, near the S. bank of the river Dearne (16 miles S. by E. of Leeds, and 32 miles S.W. of York), is the chief seat of the linen trade, which is carried on there more largely than in any other place in England. Nearly all kinds of linen goods—damasks, diapers, drills, checks, ticks, &c.—are made there. The flax spun in the flax-mills at Leeds is sent to Barnsley to be woven. Barnsley lies in the midst of the coal-field; numerous coal-pits are worked in the immediate vicinity of the town, especially to the west and south.

Goole, situated on the Ouse, at the point where the waters of the Don join that river, is a port of considerable importance. It has extensive docks, and communicates by the aid of canal and river navigation with all the chief manufacturing towns in the West Riding.

Penistone, to the N.W. of Sheffield, and only a few miles below from the source of the Don, is beside the right bank of that river. It stands on the edge of the high and bleak moorlands that adjoin the Cheshire and Derbyshire border. The town has some manufacture of woollen cloth.

Ripon, a cathedral city, near the border-line between the West and North Ridings, stands on the right bank of the river Yore, 21 miles to the N.W. of York. Ripon is of Saxon origin. It was formerly celebrated for its manufacture of spurs. *Aldbrough*, on the south bank of the Yore, a few miles below Ripon, and now a decayed town, has considerable remains of Roman and Saxon antiquity. It was the *Isurium* of the Roman period.

Knaresborough, to the S. by E. of Ripon, is a small town on the left bank of the river Nidd. In its vicinity is a curious petrifying spring called the "Dropping Well." There are also the ruins of an ancient castle of Norman origin. *Harrowgate*, 2 miles distant from Knaresborough, has acquired repute from its medicinal springs, and is now one of the most frequented watering-places in England. The waters are of different qualities — sulphureous, chalybeate, and saline aperient.

Tadcaster, on the river Wharfe, 9 miles S.W. of York, is a place of ancient origin, the *Calcaria* of the Roman itineraries. In its neighbourhood, to the southward, is the village of Towton. *Castleford*, at the junction of the Calder with the Aire, was also a Roman station. *Selby*, a small town on the right bank of the Ouse, has been referred to in a former chapter.*

24. CUMBERLAND has an area of 1,001,273 acres, or 1,564 square miles. It is a maritime county, bounded to the west and north-west by the waters of the Solway Firth and the Irish Sea. Its northwardly limit forms part of the Scotch border, the course of the river Liddel, an affluent of the Esk, forming in part the line of division between Cumberland and the adjoining counties of Dumfries and Roxburgh. The Irthing, an affluent of the Eden, the Tees (for a distance of a few miles immediately below the source of that river), the Eamont, which connects Ulleswater with the river Eden, the lake just named, and the course of the river Duddon, from its source downwards, mark the chief part of the Cumberland border-line in other directions.

Cumberland lies, for the most part, to the westward of the dividing high grounds of the Pennine chain. The eastern extremity of the county, however, includes a portion of the region of elevated moor-

* See chap. ix., as to Towton; and chap. xii., as to Tadcaster and Selby.

land which marks the watershed between the seas on either side of the island, and includes the sources of the southern or principal branch of the river Tyne. Cross Fell, in which both the South Tyne and the Tees originate, and which is the highest point in the Pennine chain, is within this portion of the county.*

The north and north-west of Cumberland are for the most part level, comprehending an extensive plain which extends around the head of the Solway Firth and along the southern border of that estuary. This plain includes the lower part of the valley of the Eden, by which, throughout the eastern division of the county, the moorlands of the dividing range are immediately bordered upon their western side. The middle and southwardly divisions of Cumberland belong to the elevated and picturesque region described elsewhere under the name of the Cumbrian mountains,† within which are included the highest elevations in England. The mountain-tract makes near approach to the shore of the Irish Sea, leaving only a narrow strip of lowland along the coast.

The numerous rivers and lakes (especially the latter) impart to Cumberland its most characteristic features, and add greatly to its varied and romantic beauties of scenery. The most considerable river is the Eden, which crosses the eastern division of the county from S.E. to N.W., and enters the Solway Firth. The Eden receives, on its left bank, the river Eamont (which issues from the large lake of Ulleswater); it is joined, much lower down, by the streams of the Irthing, the Petterill, and the Caldew — the first-named on its right bank, the two latter on the left. The Esk enters the county from Scotland, and, receiving on its way the Liddel, flows into the Solway, a little to the northward of the mouth of the Eden.

Besides the Eden and Esk, the rivers of Cumberland include the Ellen, the Derwent (with its affluent, the Cocker), the Ehen, the Mite, the Esk (southern), and the Duddon. The most considerable of these is the Derwent, which carries to the sea the surplus waters of several of the lakes, amongst them Bassenthwaite and Derwent Water.

The South Tyne and the Tees both rise within this county, in its extreme south-easterly corner. The Eden is navigable up to Carlisle. None of the other rivers of Cumberland are navigable, and, with the exception of the Eden, they are for the most part mere mountain streams.

The principal lakes that are within Cumberland are Derwent Water, Bassenthwaite, Thirlmere, Buttermere, Crummock Water, Lowes Water, Ennerdale, and Wast Water. Ulleswater, which

* See *ante*, p. 21.

† See chap. ii. pp. 22, 23.

exceeds any of the above in size, is on the border-line of Cumberland and Westmoreland.

The geological features of the Cumbrian mountains have been already described.* The slaty and granitic rocks, belonging to the primitive and transition series of which this elevated tract is composed, are bordered on the west and north by a coal-field, the strata of which dip beneath the waters of the Irish Sea. The remainder of the county, including the valley of the Eden, and the plain adjoining the Solway, consists principally of new red sandstone. At St. Bees Head, and thence northward, past Whitehaven, the coast is lined by cliffs of lower new red sandstone (Permian), which are largely quarried for building purposes. Gypsum is found in conjunction with this formation in several parts of the county—to the south of Whitehaven, in the neighbourhood of Carlisle, and elsewhere.

The minerals found within Cumberland are silver, copper, lead, iron, plumbago, and coal, with limestone and gypsum. The principal lead mines are in the extreme east of the county, at Alston, in the valley of the Tyne, and within the mountain-limestones of the Pennine chain. Iron ore has within recent years been worked upon a scale of great extent in the neighbourhood of Egremont, on the moors lying between that place and Whitehaven, from which latter town it is shipped. Plumbago (black-lead) is derived from the high valley of Borrowdale, above the head of Derwent lake.† Slate is extensively quarried in many parts of the mountain-district, especially in the neighbourhood of Keswick and Ulleswater.

There are extensive manufactures of cotton and other fabrics at Carlisle, and the mining industry of the county is on an extensive scale—especially in connection with iron-ore, the supply of which is of growing magnitude. Cumberland, however, is upon the whole an agricultural county. Beside the usual cereals, potatoes are an important crop, especially in East Cumberland. Sheep are numerously pastured on the high grounds or *fells*.

Cumberland is divided into five wards. Its towns are :—

	Pop.		Pop.		Pop.
CARLISLE	29,436	LONGTOWN	2,234	KESWICK	2,618
KIRK OS-		WIGTON	6,229	Harrington	2,169
WALD	925	Allonby	749	WHITEHAVEN	18,842
PENRITH	6,668	MARYPORT	5,698	St. Bees	
BRAMPTON	3,825	IREBY	505	EGREMONT	2,049
HESKET		WORKINGTON	7,159	RAVENGLASS	623
NEW-		COCKER-		Bootle	811
MARKET	806	MOUTH	7,056	ALSTON	2,005

* See *ante*, p. 23.

† See *ante*, p. 24.

Carlisle and Cockermouth each return two members to the House of Commons: Whitehaven returns one member. The county returns four members — two for each of its divisions (East and West).

Carlisle, an ancient cathedral city (the *Luguvallium* of the Roman period), is situated on the south bank of the river Eden, near the point where the tributary streams of the Caldew and the Petterill join its waters. Carlisle is a place of considerable manufacturing importance. Cotton goods are extensively made there, besides woollens, linens, and other articles. Carlisle has shared largely in the events of border warfare belonging to former ages, and filled a conspicuous place in the rebellion of 1745. It possesses an ancient castle, partly in ruins. The Roman wall terminates some miles west of Carlisle, at Bowness, on the shore of the Solway Firth. *Penrith*, eighteen miles to the S. by E. of Carlisle, and near the left bank of the river Eamont, has also the remains of an ancient castle.

Cockermouth, as its name implies, stands at the mouth of the river Cocker, which unites its waters to those of the Derwent, 8 miles above Workington, at the outlet of the latter stream. Cockermouth has some manufacture of cotton and other goods, and still retains portions of its strong baronial castle, of early Norman origin.

Keswick, a small town situated on the S. bank of the river Greta, and less than a mile distant from the foot of Derwent Water, lies within the heart of the lake district, and is much resorted to by tourists. Skiddaw and Saddleback are in its immediate vicinity, to the northward: Helvellyn at a somewhat further distance, to the south-east.

Whitehaven, a few miles north of the bold promontory of St. Bees Head, is an important sea-port, dependent chiefly on its valuable coal-mines: large quantities of iron-ore are also shipped hence. It has besides some foreign trade. *St. Bees*, a populous village near Whitehaven, contains a college for the education of candidates for holy orders. *Workington*, *Maryport*, and several smaller places to the northward of Whitehaven, are extensively engaged in the coal trade. Workington is near the mouth of the Derwent; Maryport at the outlet of the Ellen river.

25. WESTMORELAND has an area of 485,432 acres, or 758 square miles. Its limits to the east and west are marked by the high moorlands of the Pennine range, in the one direction, and by the crest of the Cumbrian mountains, within the central and highest portion of the group, in the other. Windermere, the largest of the English lakes, forms part of its border on the western side, as Ulleswater does on the north-west. The south-western extremity of the county reaches the sea at the head of Morecambe Bay.

Westmoreland includes nearly every variety of surface. The greater portion, however, is a region of mountains, naked hills, and bleak open moors. All the western half of the county belongs, physically, to the tract of the Cumbrian mountains, many of the higher summits of which are within its limits. Helvellyn, the second in height among the English mountains, is on the border-line between Westmoreland and Cumberland, as also are Bow Fell and Wrynose. Langdale Pikes, Fairfield, High Street, Hill Bell, Wasdale Pike, and others, are within the county. The high tract of the Shap Fells (lying immediately westward of the line of the Lancaster and Carlisle railway) forms the easternmost extension of the Cumbrian group. The valley of the Lune, here of narrow limits, intervenes between the high grounds of the Cumbrian system and the outlying hills that belong to the western flank of the Pennine chain. The hills and moorlands that form part of the last-mentioned region fill up the eastward portion of the county, with the exception of the valley of the Eden, the wider portions of which, within Westmoreland, are from ten to twelve miles across. The mountains called the Calf, the Lady's Pillar, and the Nine Standards, are on the border-line of Westmoreland and Yorkshire, as also is the high tract of Stanemoor Forest.

The Eden, the Kent, and the Lune, all three of which rise within the county, are the principal rivers of Westmoreland. The Kent and the Lune both flow southward, into Morecambe Bay. The Eamont, which issues from the lower extremity of Ulleswater, and joins the Eden, forms part of the Westmoreland and Cumberland border. The Lowther, which collects the waters that flow down the northwardly slopes of the Shap Fells, joins the Eamont. The Winstar, a small stream, which flows southward into Morecambe Bay, divides Westmoreland from the Furness district of Lancashire. The Tees flows along the extreme north-east border of the county.

Both Windermere and Ulleswater lie on the border-line of the county, and the southernmost reach of the last-mentioned lake is wholly within its limits. The considerable lake of Hawes Water is also within Westmoreland.

The geology of Westmoreland exhibits three great divisions, with which its features of surface are coincident. In the west are the slate formations of the Cumbrian group: in the eastward division of the county, the carboniferous limestone and associated rocks of the Pennine range: and between the two, occupying the narrow valley of the Eden, lower new red sandstone, with, in some places, magnesian conglomerate and gypsum. Granite appears in Wasdale Crag, on Shap Fells.

Both copper and lead mines are worked within the county. There

are several coal-pits in the tract of country lying between Appleby and Shap, which are worked to a limited extent. Limestone is quarried for building purposes, and some of it is polished as marble. Slate is quarried in the western mountain-region.

Westmoreland is the least populous of the English counties. Its industry, from the nature of its surface, is chiefly pastoral: the soil of many of the valleys, however, is extremely fertile, and arable husbandry is extensively practised in the lower grounds. Hogs are numerously reared. Plantations of oak, ash, elm, beech, sycamore, and larch, with Scotch fir on the higher grounds, are abundant.

Westmoreland is divided into four wards. Its towns are:—

	Pop.		Pop.		Pop.
APPLEBY .	1,256	SHAP .	1,009	BURTON-IN-	
BROUGH .	773	ORTON .	1,456	KENDAL .	2,559
KIRKBY-		KIRKBY-		AMBLESIDE .	1,592
STEPHEN .	2,753	LONSDALE	4,184	Windermere .	3,280
RAVENSTONE-		KENDAL .	12,028	Bowness .	1,385
DALE .	939	MILNTHORPE	1,534		

Kendal is a parliamentary borough, returning one member. The county returns two members.

Appleby, the county-town of Westmoreland, is an inconsiderable place, situated on the river Eden, in the eastern part of the county. *Brough*, between seven and eight miles to the S.E. of Appleby, occupies the site of a Roman station (*Verteræ*). There are numerous remains of Roman antiquity within this portion of Westmoreland, through which the line of Roman highway connecting Eburacum (York) and Luguvallium (Carlisle) passed, skirting the right bank of the Eden.

Kendal, on the river Kent, is the largest town in Westmoreland, and possesses extensive trade, together with manufactures of cotton and coarse woollen goods. *Ambleside* is a small town, beautifully situated near the head of Windermere, and (like Keswick in the adjoining county) is the resort of numerous tourists during the summer. *Bowness*, a populous village on the eastern shore of the lake, five miles S. of Ambleside, is similarly distinguished as a place of sojourn to the numerous admirers of the lake-scenery. A short distance north of Bowness, the village of Windermere, at the terminus of the Kendal and Windermere railway, has grown into existence within recent years.

26. LANCASHIRE has an area of 1,219,221 acres, or 1,905 square miles. It is a maritime county, of very irregular shape. Its

northernmost portion, known as Furness, is detached from the rest of the county, the broad estuary of Morecambe Bay intervening between the two portions. The line of seaboard from Morecambe Bay southward includes the estuaries of the Wyre, the Ribble, and the Mersey.

The island frontier of Lancashire in part coincides, to the eastward, with the high grounds of the Pennine chain, which divide it from the adjacent county of York. On the south, the river Mersey separates Lancashire and Cheshire.

Lancashire exhibits a very varied surface. The land along the coast, and for some distance inland, is generally low; but towards the interior the ground attains a considerable elevation, and forms widespread moorlands, upon which there rise hills of rounded form. In the extreme northern portion of the county — the Furness district, which belongs, physically, to the Cumbrian mountain region — the hills attain a greater elevation than elsewhere.

The higher and more northern portion of Furness is known as High Furness (or Furness Fells); the southern portion, nearer the coast, is termed Low Furness. Conistoun Old Man, 2,577 feet above the sea, in High Furness, is the most elevated summit in Lancashire. This mountain is only between two and three miles distant from a point called Three Shire Stones, at which the counties of Cumberland, Westmoreland, and Lancashire touch one another.

The high grounds that occur in the more southward and larger portion of Lancashire, and attain their greatest elevation towards the eastern border of the county, belong to the Pennine range. These spread out to considerable breadth, forming heathy and for the most part waste tracts of moorland. Pendle Hill (near Clitheroe), 1,303 feet, exceeds in height any other summit of the Pennine chain within the limits of Lancashire. Boulsworth Hill, farther to the eastward (a few miles E. of Burnley), is 1,689 feet high. The moors in the neighbourhood of Bolton, farther south, have an average elevation of several hundred feet, and Rivington Pike, which rises upon them, is 1,545 feet high. Bleasdale Moor, in the more northern part of the county (east of Garstang), rises to 1,709 feet.

The high lands attain a greater breadth in the southern part of the county than elsewhere, and approach the sea in the neighbourhood of Liverpool; their elevation, however, diminishes considerably as they advance westward. To the south, they subside gradually towards the valley of the Mersey and the plain of Cheshire. Between the mouths of the Mersey and Ribble the land is uniformly level, and contains extensive peat-mosses. The peninsular tract that intervenes between the mouth of the Ribble and Lancaster Bay is called *the Fylde*: this is chiefly a level dis-

trict, with peat-mosses of some extent. Further north, along the shores of Morecambe Bay, the ground is also level.

The four principal rivers of Lancashire are the Mersey, the Ribble, the Wyre, and the Lune. The Mersey forms the southern boundary of the county. The Ribble and the Wyre water its middle portions. The course of the Lune is through its more northern division. All of these rivers rise within the high grounds of the Pennine range, and discharge into the Irish Sea.

The Mersey (formed by the junction of the Etherow and the Goyt) is joined at Stockport by the Tame. Some miles lower it receives on its right bank the Irwell, upon which Manchester stands. Below Warrington, the Mersey expands into a magnificent estuary, which at Liverpool is three-quarters of a mile across, and has still wider dimensions higher up. The Mersey becomes navigable at Stockport, and within the lower part of its course admits ships of the largest size and tonnage. The Irwell, about forty miles long, is navigable as far up as Manchester.

The Ribble rises in Yorkshire, and crosses the county in a south-westerly direction, forming a broad estuary below Preston. It is joined on the right bank by the Hodder (which forms a part of the county boundary), and on the left by the Calder* and the Darwen. Lower down, its estuary receives, on the left side, the stream of the Douglas. The Ribble is navigable from Preston downwards: its valley above Preston — or Ribblesdale — is a very beautiful and fertile district.

A small stream called the Alt enters the Irish Sea between the mouths of the Mersey and the Ribble, near Formby Point.

The river Wyre enters the southern portion of Morecambe Bay, after a course of twenty-eight miles. Its lower portion forms an estuary of some magnitude, on the western side of which, at its mouth, the town of Fleetwood has been built. A short distance to the west is the headland of Rossall Point.

Only a small portion of the river Lune is within Lancashire. Lonsdale, the valley through which it flows, is a tract possessed of great natural beauty. The Lune becomes navigable for ships of small size at Lancaster, below which town it forms a broad but

* Called the West Calder, to distinguish it from the river Calder of Yorkshire, which joins the Aire, and thus contributes its waters to the stream of the Ouse. Both rivers rise within a short distance of one another, upon the moorlands on the border of the two counties. They flow in opposite directions, the East (or Yorkshire) Calder joining the Ouse, and thus reaching the German Ocean, while the west (or Lancashire) Calder unites with the Ribble, and enters the Irish Sea.

shallow estuary. Lancaster Bay, into which it discharges its waters, is the southern portion of Morecambe Bay.

There are numerous small rivers within the Furness district. The Winster and the Duddon form the eastern and western boundaries of this part of the county. The Winster is a mere brook, which enters the head of Morecambe Bay near the mouth of the Kent. The Duddon is a broad estuary in the lower part of its course, a mountain-torrent higher up. The Leven, which flows from Windermere, and the Crake, which issues from Coniston Lake, both discharge into Morecambe Bay.

Windermere, the largest of the English lakes, is on the borders of Furness and Westmoreland, but is chiefly enclosed by the former. The smaller lake of Esthwaite, to the west of Windermere, is connected with the latter by Cunsey Beck, which issues from its lower extremity.

Coniston, which is the third in size among the English lakes, is entirely in Lancashire, and is enclosed amongst the Furness Fells. The mountain called the Old Man is a few miles distant from the head of this lake.

Morecambe Bay is distinguished by the strength and rapidity of its tides. Its upper portion exhibits, at low water, a vast expanse of sand, across which, between Furness and the opposite shore, there is a road capable of being traversed by carts; but the speed with which the flood-tide advances renders the passage dangerous.

Several islands lie near the western coast of Furness, and near the entrance to Morecambe Bay. The principal of them is Walney Island, which measures eight miles from north to south, by less than half a mile in breadth. The others are Old Barrow, Peel, and Foulney Islands, with a few of still smaller size. These lie in the channel between Walney Island and the mainland. Peel Island (or Pile of Fouldrey, as it is sometimes called) contains the remains of an ancient castle.

Geology. — Furness belongs to the slate district of the Cumbrian Mountains, a tract altogether distinct, geologically, from the rest of the county. A great deal of slate is quarried in the higher parts of Furness, and copper is worked there. Along the southern border of the slaty district there is a belt of mountain limestone, bordered, on the coast, by sandstone. Iron is worked within the limestone district.

The greater part of Lancashire falls within the carboniferous area. The millstone-grit embraces the high grounds on the eastern borders of the county, as well as a great part of its midland districts: the coal-measures occupy its more southern portion. Immediately to the north of the Mersey, however, as well as along parts of the western coast, there is a tract belonging to the new red sandstone (or

red marl) formation. This alternates, along the coast, with clays and peat-mosses.

The coal-field of South Lancashire embraces an area of above 138,000 acres, extending across the county from its eastern borders nearly as far west as Liverpool; a length of fifty miles, with a breadth, in its widest part, of more than fifteen miles. The total thickness of the coal-measures exceeds 1,000 feet. Coal of excellent quality is worked at a great number of places within this vast area; some of it is of the description called *cannel* coal, which burns with a bright flame, and is capable of receiving a high polish.*

A line drawn from Liverpool to Manchester, and thence south-eastwardly to the banks of the Tame, above Stockport, marks in a general manner the southern limit of the coal-field: both Manchester and Liverpool are, however, beyond its limits, though the former is immediately adjacent to its southern border. To the north and west, the coal-field extends to within a short distance of the river Ribble, its limits being marked by a line drawn from Colne, past Burnley, Blackburn, and Chorley, and from the last-named place to the neighbourhood of Liverpool. The coal-pits are most numerous about Prescot and Newton, and in the district between those towns; about Wigan and Bolton, about Oldham and Ashton-under-Lyne, and in the neighbourhood of Blackburn and Burnley. Towards the northern border of the county, within the valley of the Lune, there is also a small detached coal-field, which extends into the adjacent county of York: within the limits of this there are a few coal-pits, in the neighbourhood of Hornby.

Coal constitutes the chief mineral produce of Lancashire. There are some lead mines, both in the millstone-grit and mountain limestone, but their produce is not considerable. The sandstone rocks in the neighbourhood of Liverpool and elsewhere furnish good building-stone. Coarse slate and flag-stones are obtained near Wigan, and also at Rochdale and elsewhere. Limestone is quarried in Longridge Fell, on the north side of Ribblesdale.

Lancashire includes a larger population than any other single county. It has, besides, a greater density of population than any other, with the single exception of Middlesex. The distinguishing feature in the industry of the county is the cotton manufacture, of which it is the great seat. Lancashire is more strictly a manufacturing county than any other in England: the great bulk of its population are engaged in various manufacturing and commercial pursuits — mostly connected with cotton.

* The *cannel* coal is sometimes worked into vases, and other articles of use or ornament.

In its agriculture, Lancashire is more of a grazing than an arable county, as is always the case in the neighbourhood of large towns and in populous districts. The meadows and pastures are of great extent. Milk, butter, and cheese, are supplied in large quantities. A great deal of the cheese sold under the name of "Cheshire" is made in the southern and western parts of this county.

On the high moorlands, towards the eastern part of the county, there are waste tracts of large extent, besides numerous peat-bogs (or mosses), in a spongy and semi-fluid condition, along the coast and elsewhere. These mosses, however, are capable of being converted into productive soil, by drainage and other means.*

In the lower parts of the county, towards the coast and along the valley of the Mersey, where the substratum consists of red sandstone, the soil is chiefly a light sandy loam, which is very productive. Good crops of wheat are raised here, and also great quantities of potatoes. Within the valley of the Ribble, and thence towards the Lune, there is a greater proportion of clayey soil; good wheat is also grown in those districts. There are few or none of the cold wet clays that occur in many parts of England. Oats form a favourite crop, and are much used as food in the northern parts of the county. Lancashire was the first county in England in which the potato was grown to any considerable extent.

Railways, canals, and good roads, abound in Lancashire. The first railway constructed in England for passenger traffic was that between Liverpool and Manchester, which are thirty-one miles apart. This was opened in 1830. All the southern part of the county, within and adjacent to the great coal-field, is now covered by a network of railways, which connect all the principal towns, and unite them with the adjacent counties. The lines that extend to the eastward, into Yorkshire, pass through tunnels where they cross the border range of high ground.

Canals are hardly less numerous in Lancashire than railways. In this case, again, the distinction of setting an example to other parts of the country belongs to Lancashire. The first canal that was made in England — the Duke of Bridgewater's canal, extending from Manchester to the duke's estate at Worsley, and crossing the Irwell, at Barton, by an aqueduct — was completed in 1761, by the engineering skill of Brindley, and under the enlightened patronage of the noble-

* One of the most considerable is Chat Moss, across which the Liverpool and Manchester railway passes; it comprises an area of twelve square miles, and was estimated to contain sixty millions of tons of vegetable matter in a loose and pulpy state: the greater part of it has now been drained and brought under cultivation.

man whose name it bears. This canal was shortly after extended into the adjoining county, crossing the Mersey into Cheshire, and continuing thence to the estuary of that river, below Runcorn.*

Lancashire is divided into six hundreds. Its towns and chief manufacturing villages are:—

	Pop.		Pop.		Pop.
LANCASTER .	14,478	WIGAN .	37,657	STALEY BRIDGE	20,760
GARSTANG .	7,465	MANCHESTER		LEIGH .	5,206
POULTON-IN-		including		Tyldesley .	3,608
THE-FYLDE	7,690	SALFORD .	440,760	Atherton .	4,655
FLEETWOOD .	4,134	BARTON-ON-		WARRINGTON	25,953
BLACKPOOL .	2,180	IRWELL .	12,687	Newton .	3,719
		BOLTON .	70,396	ST. HELENS	14,866
PRESTON .	82,961	BURY .	37,564	PRESCOT .	7,393
KIRKHAM .	2,777	Haslingden	9,030	LIVERPOOL .	443,874
LYTHAM .	2,698	Rawtenstall	5,643	ORMSKIRK .	5,548
Southport .	4,765	Bacup .	10,000		
CLITHEROE .	7,244	ROCHDALE .	38,164	CARTMELL .	5,213
COLNE .	6,644			HAWKSHEAD	2,283
BURNLEY .	20,828	Todmorden.	4,532	ULVERSTON .	6,433
Accrington .	8,108			DALTON-IN-	
BLACKBURN .	63,125	MIDDLETON.	5,740	FURNESS .	4,683
Over Darwen	7,020	OLDHAM .	72,334	BROUGHTON-IN-	
CHORLEY .	8,907	ASHTON-UNDER-		FURNESS .	1,297
		LYNE .	34,894		

The towns of Lancaster, Liverpool, Manchester, Bolton, Blackburn, Oldham, Preston, and Wigan, are parliamentary boroughs, each

* In three different places, the Pennine range of heights, which forms the watershed between the eastern and western seas of England, is crossed by canals. The inland navigation of Lancashire is thus united with that of Yorkshire, and the waters of the Irish Sea and the German Ocean are connected together. These three places are the points at which the Leeds and Liverpool Canal, the Rochdale Canal, and the Huddersfield Canal, cross the dividing ridge. The Leeds and Liverpool Canal, which runs in a circuitous course between those towns, crosses the country boundary near the town of Colne, and runs thence through Yorkshire along the valley of the river Aire. The Rochdale canal, which commences at Manchester, and passes up the valley of the Roch (a small tributary of the Irwell), crosses the dividing chain of heights at Todmorden, and proceeds thence along the valley of the Yorkshire Calder. The line of the Huddersfield canal extends eastward from Manchester, by Ashton-under-Lyne and Staley Bridge, towards Saddleworth and Huddersfield, in the adjoining county of York. Besides numerous branches from these various canals, there are others which extend through the county in a northerly direction, past Preston to Lancaster, and thence northward as far as Kendal in Westmoreland.

returning two members. Ashton, Bury, Clitheroe, Rochdale, Salford, and Warrington, return one member each. The county returns five members — two for its Northern, and three for its Southern division.

Lancaster, the county town of Lancashire, and the seat of the assize-courts for the northern division of the county, stands on the south bank of the river Lune, near its mouth. It has some cotton and silk-mills, with iron foundries and other works; but its shipping trade is inconsiderable, the navigation of the river being only fitted for small vessels. Lancaster possesses a fine castle, one of the most striking remains of feudal antiquity in the kingdom. Edward III. conferred the Duchy of Lancaster on his son, John of Gaunt. The town suffered severely during the Wars of the Roses, and was the scene of contest during the Civil War.

Fleetwood, at the mouth of the river Wyre, on the south side of Morecambe Bay, a town of recent origin, possesses some coasting and Channel trade. The small towns of *Southport* and *Lytham*, upon opposite sides of the entrance to the estuary of the Ribble, with *Blackpool* on the west coast of the Fylde district, possess some note as provincial watering-places.

Preston stands on the north bank of the Ribble, immediately above the estuary of the river. It is a large and flourishing town, the present importance of which is due to the cotton manufacture, carried on there in all its branches. Preston is of ancient origin, and is said to be of Roman origin.* The village of *Ribchester*, nine miles to the N.E. of Preston (and within Ribblesdale), is the undoubted site of a Roman station — Rigodunum, or Coccium. Four miles higher up the valley of the Ribble, and near the Yorkshire border, is the Jesuit college of Stoneyhurst.

Blackburn, to the eastward of Preston, and 21 miles N.W. of Manchester, is another populous town, the inhabitants of which are engaged chiefly in cotton-spinning and weaving. Its name is derived from that of a small brook — the Blackbourne — which flows through the town, and afterwards joins the Darwe.

Burnley, ten miles to the E. by N. of Blackburn, and twenty miles N. of Manchester, stands beside a small stream (or burn) which joins

* Preston has shared in many events of historical importance. In 1323, it was taken and partly destroyed by Robert Bruce. Its connection with the civil war has been noticed in a preceding page (chap. xii.). In the rebellion of 1715, Preston was occupied by the Jacobite army, but was speedily surrendered to the Royalists. Thirty years later, in 1745, the army of Prince Charles Edward passed twice through the town, on its advance from and return to Scotland. Arkwright, the great improver of the spinning-jenny, was a native of Preston.

the Calder. It is of great antiquity, and is supposed to have existed as a town even in the Roman period. Cotton-spinning and weaving form the main business of the town; there are also some worsted-mills.

Chorley, at a distance of between seven and eight miles from Preston, in the direction of S.S.E., is situated on rising ground near the line of the Leeds and Liverpool canal. It shares in the predominant industry of Lancashire, the chief articles of manufacture being calicoes, muslins, and gingham. Chorley has increased greatly in size within recent years.

Wigan, an ancient and busy town, six miles south of Chorley, stands on either side of the river Douglas. Besides the various branches of the cotton trade, it has iron and brass foundries and chemical works, with numerous collieries. About eight miles to the W. by N. of Wigan, and not far from Ormskirk, is Lathom House, famous for its gallant defence by the Countess of Derby, when besieged by the Parliamentary forces during the Civil War (A.D. 1644).

Manchester, the capital of the cotton-manufacturing district, is situated in the south-eastern part of Lancashire, at a direct distance of 158 miles to the N.W. of London, or of 188 miles by railway. Manchester lies on the east side of the river Irwell; but the town of Salford, upon the west bank of the river, though ranking as a distinct borough, is united to Manchester by numerous bridges, and the two form together one immense and continuous city, with nearly half a million of inhabitants. The small rivers Irk and Medlock join the Irwell within its limits.

Manchester is the seat of a bishop's see. Among its numerous public buildings one of the most interesting is the Cathedral church of St. Mary, an ancient Gothic structure. The Exchange, Town-hall, Infirmary, Royal Institution, and Athenæum, besides many of the churches, are also fine erections. But the numerous cotton-mills impart the distinguishing feature to the aspect of Manchester. Besides these, there are a great many brass and iron foundries, as well as chemical works, and numberless factories, warehouses, and shops, for the supply of the wants of a large population. The streets are for the most part broad, well paved and lighted, and the chief thoroughfares are the constant scene of a busy traffic. Railways and canals run through the heart of the town.

Bolton (or Bolton-le-Moors), a town of early origin, lies in the midst of the South Lancashire coal-field, between nine and ten miles N.W. of Manchester, on the banks of a little stream called the Croal,

an affluent of the Irwell. It is one of the principal seats of the cotton manufacture.*

Bury, a few miles E. of Bolton, and nine miles N. by W. of Manchester, lies in the valley of the river Irwell. Besides numerous cotton-mills and calico-printing works, it has extensive woollen manufactures. Bury is of ancient origin, and formerly possessed a baronial castle. It was besieged by the Parliamentary forces in 1644. The late Sir Robert Peel was a native of Bury.

Haslingden is to the S.E. of Blackburn, in the midst of a busy manufacturing district. Woollen, cotton, and silk goods are all largely made there. *Bacup*, *Rawtenstall*, and *Accrington*, are populous manufacturing villages in the same part of the county — the two former to the east of Haslingden, the last-named to the northward, midway between Blackburn and Burnley. All three of them owe their prosperity to the cotton trade.

Rochdale, to the eastward of Bury, and nine miles N. by E. of Manchester, stands upon either side of the river Roch, which afterwards joins the Irwell. The manufacture of woollen fabrics, introduced as long back as the time of Edward III., forms the staple business of the town: cotton goods are also largely made.

Oldham, between six and seven miles N.E. of Manchester, stands on an eminence near the right bank of the river Medlock (a tributary of the Irwell). Its valuable coal-mines, together with the cotton-manufacture, have given the town its present size and importance.

Middleton, a few miles W. of Oldham, and six miles distant from Manchester, is on the small river Irk, which joins the Irwell. Besides the various branches of the cotton trade, silk-weaving is largely carried on here.

Ashton-under-Lyne.† six miles E. of Manchester, and a short distance to the S.E. of Oldham, is on the north bank of the river Tame, upon the borders of Cheshire. The cotton manufacture is largely carried on, and there are numerous coal-mines. *Staley Bridge*, which adjoins Ashton to the eastward, has risen within a recent period from a village to a populous manufacturing town, with numerous cotton-works and collieries.

* It was at Bolton that the machine called a *mule* was first introduced by its inventor, Samuel Crompton, a native of the town. Bolton was besieged by the Royalists, under the Earl of Derby, during the Civil War, but remained during the chief part of the struggle in the hands of the Parliamentary party.

† The epithet "under-Lyne" is derived from the name of an ancient forest in the neighbouring county of Chester.

Warrington, upon the right bank of the Mersey, is a large manufacturing town, on the southern border of the county. Besides cotton-spinning and weaving, the making of flint glass and glass bottles, with machinery, pins, wire, nails, spades, and various other articles, is largely carried on. *St. Helens*, seven miles to the N.W., has the most extensive manufacture of plate-glass in the kingdom, besides chemical and other works.

Liverpool, at the mouth of the river Mersey, and 31 miles to the west of Manchester, is the port of the cotton manufacturing district, and the emporium of an immense commerce carried on with every part of the globe. The mouth of the Mersey constitutes the harbour of Liverpool, and a magnificent chain of docks extends for upwards of three miles along the eastern bank of the river. The streets of the town are generally wide and spacious, the churches and other public buildings numerous. Foremost in architectural display is St. George's Hall, a magnificent building in the Grecian style, occupying a commanding site in the heart of the town. The Custom-house, Exchange, Town-hall, and Sailors' Home, together with the Collegiate and Mechanics' Institutions, are also striking edifices. The two latter have in connection with them valuable and numerous attended schools. There are, besides, numerous institutions for the encouragement of art and science. St. George's Hall includes the assize-courts for the southern division of the county.

Ulverston, near the west side of Morecambe Bay, is the most considerable place within the Furness district of Lancashire. It has some trade in the export of iron-ore, limestone, and slates, all of which are extensively worked in the adjacent district. *Hawkshead*, a small town situated within one of the most attractive portions of the lake-region, lies at the head of Esthwaite Water, and about midway in position between the two larger lakes of Coniston and Windermere. *Broughton-in-Furness* is a small town at the head of the estuary of the river Duddon, which divides Furness from the adjoining county of Cumberland.

V. THE EASTERN COUNTIES.

27. LINCOLNSHIRE, the second in size of the English counties, has an area of 1,776,738 acres, or 2,776 square miles. It is a maritime county, bordering on the German Ocean. To the north and north-east, Lincolnshire is limited by the estuary of the Humber: to the south-eastward, by the Wash. The southern shore of the Wash is marked by an artificial wall or bank, which advances farther out to

seaward than the older line of coast. The rivers Trent and Welland flow respectively along portions of the western and southern border of the county, but the greater part of its inland frontier is marked by an artificial line.

A large portion of Lincolnshire, comprehending more than half of its entire extent, consists of low and flat alluvial plains, naturally marshy, but converted by drainage into fertile and productive tracts of country. In the southern portion of the county, where these levels are of greatest breadth, they form part of the great district of the fens.* These flats occupy the whole eastern side of the county, and border the Humber estuary as far as the neighbourhood of Barton. A similar tract of alluvial deposit occurs in the north-western corner of the county, embracing the tract to the west of the lower Trent, and extending thence over the course of the old river Don, into the adjacent county of York. Part of this region is known as Thorne Moss. The tract enclosed by the Trent, the old Don, and the old Torne and Idle rivers, forms the isle of Axholme, portions of which rise somewhat above the level of the adjoining wastes.†

The high tract of the Lincolnshire Wolds stretches through the eastern part of the county, from Barton-on-the-Humber to the neighbourhood of Burgh—a distance little short of fifty miles, with an average breadth of about six miles. These, like the Yorkshire Wolds, are chalk downs. The Wolds descend gradually towards the alluvial tract on the east, but present a deeper descent to the westward. They are succeeded, in that direction, by an undulating but generally low tract, of considerable breadth, and stretching through the middle of the county, from the banks of the Humber southward, until it gradually subsides into the level of the fens. The northern half of this tract is watered by the river Ancholme: the southern portion by the Witham and its various small affluents. Westward again from this low tract, the ground rises, and exhibits a long chain of high ground, running north and south, from the Humber to the south-western limit of the county, where it enters Leicestershire. This range of high ground (sometimes marked upon maps as the Lincoln Heights, and referred to, from its geological formation, by the name of the *stonebrash* hills) runs past Kirton,

* See *ante*, p. 40.

† The name Axholme is derived from Haxey (or Axel)—now a mere village, but formerly a place of some importance—and *holme*, a river-island. The drainage of this tract was effected in the reign of Charles I., by the Dutch engineer, Vermuyden, and a large extent of land thereby reclaimed from its original condition of marsh and fen. The courses of the rivers within this tract have been greatly altered.

Lincoln, and Grantham. It presents a steep escarpment to the west, forming, southward of Lincoln, a distinctly marked ridge of high ground, called the Cliffe Row. The highest elevations in the county, however, are probably under four hundred feet.

The principal rivers of Lincolnshire are the Trent, the Ancholme, the Witham, and the Welland. The Trent has the lower portion of its course within the county, and is navigable for vessels of 150 tons up to the town of Gainsborough. The Ancholme belongs entirely to Lincolnshire. It drains the northward slope of the tract lying between the Wolds and the more westerly tract of high ground, and flows into the Humber. Its waters are now carried off chiefly by an artificial and nearly straight channel, which is navigable.

The Witham rises within the county of Rutland, but has nearly its whole course within Lincolnshire. It flows northward to Lincoln, and there bends to the eastward, afterwards taking a S.E. course, past Boston, to the Wash. The Witham is the most important of the Lincolnshire streams, and has been made navigable for small vessels up to Lincoln: it receives several affluents, the chief of which are the Bain and the Sleaford rivers. At the city of Lincoln, the Witham communicates, by means of the Foss Dyke (originally a Roman work, afterwards cleared out and improved under Henry I.), with the Trent. The Foss Dyke joins the Trent at Torksey, a few miles above Gainsborough.

The Welland has only the lower portion of its course within Lincolnshire. It is navigable up to the town of Stamford, where it first touches the county border. The greater part of its present channel, within Lincolnshire, is artificial. Numerous works of artificial drainage—known as “eaus,” “drains,” “droves,” and “dykes”—intersect the level of the fens within the southern part of Lincolnshire, and connect the various river channels. One of the principal of these is the “Shire Drain,” which unites the Welland to the lower course of the Nen, near the mouth of the latter. The river Glen, which has all but a very small portion of its course within Lincolnshire, joins the Welland a short distance about the outlet of the latter in the Wash.

The Tetney, Ludd, Withern, and Steeping rivers, are small streams flowing from the eastern slopes of the Wolds into the sea, to the south of the Humber.

A large portion of Lincolnshire consists, geologically, of alluvium. This comprehends all the southern and eastern portions of the county (including the valley of the Witham, up to Lincoln), together with its north-western extremity, adjoining the mouth of the Trent—the whole, in fact, of the level tract of the fens. The Wolds consist of chalk, bordered, on their western face, by narrow

belts of greensand and iron-sand. This is succeeded, to the westward, by strata of the oolitic and lias series, the different members of which stretch, from north to south, through all the western portion of the county. To the southward of the Witham, the oolitic formations immediately adjoin the alluvium of the fens. The high ridge described as extending from the Humber, southward, past Lincoln, consists of great oolite and cornbrash: this is quarried in several places between the towns of Sleaford and Grantham. The lias adjoins the oolite on its western side. The Isle of Axholme, in the north-west of the county, is composed of red marl (new red sandstone), which formation extends, farther to the south, along the banks of the Trent. The red marl of the Isle of Axholme is bordered, all round, by the alluvium of the contiguous marsh-lands: gypsum is found within its limits, and there are salt springs in the neighbourhood of Gainsborough, on the Trent.

Lincolnshire is chiefly distinguished as a grazing county, and for rearing sheep and cattle of great size and weight. Some of the less improved fens are extensively used for breeding geese, the feathers and quills of which are largely supplied to the London market. Great numbers of wild fowl resort to the fens during the winter. Tillage is pursued in the higher parts of the county, and the usual cereal crops are raised.

Lincolnshire has a threefold division, of great antiquity, into the districts of Lindsey, Kesteven, and Holland. Lindsey comprehends all the northern part of the county,* Kesteven its south-westerly division, and Holland the level tract in the south-east and south. The county is further divided into wapentakes, hundreds, and liberties, of which there are in all thirty-one.

Lincolnshire contains the following towns:—

	Pop.		Pop.		Pop.
LINCOLN .	20,995	FOLKINGHAM	763	CROWLAND .	3,183
GRANTHAM .	4,954	SWINESHEAD	2,044	SPALDING .	7,627
TATTERSHALL	987	DONINGTON	1,867	HOLBEACH .	5,191
BOSTON .	13,995	CORBY .	958	SUTTON ST.	
BOLINGBROKE	980	BOURNE .	3,717	MARY .	6,591
HORNCASTLE	5,017	STAMFORD .	8,044	SPILSBY .	1,461
WRAGBY .	610	MARKET DEEP-		WAINFLEET	2,117
SLEAFORD .	3,729	ING .	1,294	BURGH .	1,215

* The termination of this name, "ey," an island (see *ante*, p. 114), is indicative of its application to a tract which in former times, even more fully than in the present day, was insulated by the sea, the Humber, the Trent, and the Witham, with the adjacent marshes. Geologically, the Wolds are a chalk island, rising above a sea of alluvium.

	Pop.		Pop.		Pop.
ALFORD .	2,262	BARTON-ON-		CAISTOR .	2,407
LOUTH .	10,568	HUMBER .	3,866	KIRTON .	1,948
Saltfleet .	351	GLAMFORD			
GRIMSBY,		BRIGGS .	2,201	GAINSBOROUGH	7,261
GREAT .	8,860	MARKET		EPWORTH .	1,944
		RASEN .	2,110	CROWLE .	2,245

The city of Lincoln, and the towns of Boston, Grantham, and Stamford, each return two members to the House of Commons. The borough of Great Grimsby returns one member. The county returns four members—two for the northern division, comprehending the parts of Lindsey; and two for the southern division, within which are comprehended the parts of Kesteven and Holland.

Lincoln, the capital of the county, and an ancient cathedral city, the Lindum of the Roman period, stands on the north bank of the river Witham. Its cathedral, one of the finest in the kingdom, constitutes the chief object of attraction to the stranger. Lincoln was formerly a place of more relative importance than belongs to it in the present day; its trade is entirely local, and is limited to the agricultural produce of the county.

Grimsby, upon the southern side of the entrance of the Humber, after declining from the importance which it had possessed at an early period, has within a recent date again risen into note as a seat of trade. It enjoys advantages for this in the possession of extensive docks, besides having railway communication with the principal manufacturing towns of Yorkshire and Lancashire.

Boston, a few miles above the mouth of the Witham, and near the shores of the Wash, carries on great trade with the Baltic countries, and exports large quantities of oats and other agricultural produce, chiefly to London: it has also manufactures of sail-cloth and other articles connected with shipping.

Stamford, on the river Welland, at the S.W. extremity of Lincolnshire, is a town of ancient date, and of frequent mention in the earlier chapters of English history, during the period of Saxon and Danish contest, as also for some centuries after the Conquest. It had formerly no fewer than 16 parish churches, only six of which now remain. The trade of the town, as a market for the produce of the surrounding district, is still considerable. *Crowland*, or *Croyland*, 13 miles E. of Stamford, and near the right bank of the Welland, lies in the midst of the fens. It is interesting from its antiquity. Portions of its ancient abbey, which replaced a monastery of early Saxon date (founded by Ethalbald, king of Mercia, early in the 8th century), still remain. This establishment, destroyed at times by the Danes, but afterwards restored, became one of the most

extensive monastic foundations in England. *Spalding*, on the Welland, eight miles to the N. of Boston, has extensive trade in the agricultural produce of this portion of the county.

Gainsborough, on the east bank of the Trent, and 15 miles N.W. of Lincoln, has considerable inland trade, by means of the river and canals. Its connection with some passages of English history has been referred to in a preceding page (Chap. XII.).

28. NORFOLK has an area of 1,354,301 acres, or 2,116 square miles, and is fourth among the English counties in point of size. It is a maritime county, with an outline defined, for the most part, by well-marked natural features—the sea on the north and east, the Waveney and Little Ouse rivers on the south. A small part of the western border of the county is marked by the lower course of the river Nen, between which and the stream of the Great Ouse the border line is artificial.* The north-western portion of the coast-line of the county is marked by the Wash, or Norfolk estuary. The coast is here artificial, the present line of shore (as in the adjoining county of Lincoln) being considerably in advance of the older embankments, which are still visible. Extensive works are now in progress, by which a large additional tract of land will be gained from the sea. Elsewhere, the coast-line exhibits in some parts a waste of land, due to destructive inroads of the water upon the soft cliffs of mud or clay, by which the shores are lined. The valleys of the Yare and the Waveney, on the other hand, were once estuaries, and have been gained from the sea within the last nine or ten centuries.

Norfolk, like the eastern counties in general, exhibits for the most part a flat surface. No part of the county possesses any conspicuous elevations, and, towards the eastern coast, the ground is in many parts almost a dead level. The highest ground is in the north-west, where the chalk heights which extend from the entrance of the Wash southward exhibit a somewhat steep escarpment upon their western face. These belong to the extended range of ground elsewhere described under the name of the East Anglian Heights.†

The principal rivers of Norfolk are the Great Ouse, the Yare, the Waveney, and the Bure or North river. The Ouse crosses the western portion of the county, and receives on its right bank the tributary streams of the Little Ouse, the Wissey (or Stoke), and the Nar. The longer arm of the Yare is the Wensum river, upon which Norwich stands. The Wensum joins the Yare two miles below that city,

* Norfolk coincides with the northern half, as Suffolk does with the southern division, of the kingdom of the East Angles. See chap. iv. p. 28.

† See chap. ii. p. 30.

and the united stream then flows into the sea at Yarmouth, expanding, a short way above its outlet, into a large sheet of water called Breydon Water. The Yare is navigable up to Norwich. The Waveney joins the Yare at the head of Breydon Water, but has also another outlet to the sea, through the channel known as Lake Lothing, at the town of Lowestoft. The Bure flows through the north-easterly portion of the county, and joins the Yare at the lower extremity of Breydon Water, immediately above Yarmouth. There are several extensive and shallow pools of water, known as "broads," within the flat grounds that belong to the lower portions of the valleys of the Bure and the Yare rivers, especially within the tract lying to the north of the former stream. Some of these are between two and three miles in linear extent.

The geology of Norfolk exhibits, in the eastern part of the county (and extending over about a third of its entire area), the tertiary formation known as "crag," a diluvial deposit, composed of gravel, sand, and clay, with embedded masses of chalk, and various fossil shells. From the westerly limit of the "crag," about Norwich, westward nearly to the shores of the Wash and the line of the Ouse, chalk forms everywhere the substratum of the soil. The tract lying west of the Ouse forms part of the fen district. The mineral productions of Norfolk are not considerable. The chalk is extensively used as lime. Excellent sand for glass-making is found to the northward of King's Lynn, within the tract of country extending between that town and the village of Snettisham. Potters'-earth and good brick-earth are found, and marl is dug in the valley of the Bure.

Excepting in so far as the city of Norwich is concerned, Norfolk is almost exclusively an agricultural county. Large tracts of land which were, in their natural state, either sandy wastes or unproductive swamps, have been brought under cultivation, and now yield abundant harvests. Wheat and barley, alternately with turnips and the artificial grasses, form the principal crops. Turkeys and other poultry are numerously reared—geese especially—within the fen districts of the west. The mackerel and herring fisheries are largely pursued off the coast.

Norfolk is divided into 33 hundreds. It includes the following towns:—

	Pop.		Pop.		Pop.
NORWICH .	74,414	SWAFFHAM .	3,858	DISS .	2,419
YARMOUTH .	34,803	WYMONDHAM	5,177	AYLSHAM .	2,741
FOULSHAM .	1,077	ATTLE-		NORTH WAL-	
FAKENHAM .	2,240	BOROUGH	2,324	SHAM .	2,911
EAST DERE-		NEW BUCKEN-		Worsted .	827
HAM .	3,372	HAM .	766		
LITCHAM .	855	LODDON .	1,211	CROMER .	1,366
HINGHAM .	1,698	HARLESTON	1,509	HOLT .	1,726

	Pop.		Pop.		op.
WELLS .	4,736	KING'S LYNN	16,071	STOKE FERRY	820
WALSINGHAM	1,207	MARKET DOWN-		WATTON .	1,353
BURNHAM		HAM .	2,867	THETFORD .	4,075
WESTGATE	1,241	Castle Acre	1,567	EAST HARLING	1,198
Castle Rising	392			KENNINGHALL	1,648

The city of Norwich, and the boroughs of Yarmouth, King's Lynn, and Thetford, each return two members to the House of Commons. The county of Norfolk returns four members—two for each of its divisions (East and West).

Norwich, the capital of the eastern counties, stands on both banks of the river Wensum, a short distance above its junction with the Yare. Its early importance has been referred to in a preceding page.* Shawls, crapes, and various fabrics of silk and woollen, are extensively made there, and the town is also the centre of a great agricultural traffic, having one of the most extensive corn-markets in England. The cathedral of Norwich is one of the finest in the kingdom.

Yarmouth, the port of Norwich and an important commercial town, is near the outlet of the river Yare. The herring fishery is largely carried on from this town, which has also great trade with the countries of northern Europe. *East Dereham*, 16 miles W. by N. of Norwich, is the centre of an extensive agricultural district.

Lynn, or *Lynn Regis* (King's Lynn), at the mouth of the Ouse, is a flourishing port, with considerable trade, chiefly in the agricultural produce of the adjacent district, and of the fine sand which is found in the neighbourhood.

Of the numerous other market-towns belonging to Norfolk, none are of any considerable size. *Thetford* and *Wymondham*, which are of provincial importance, are situated, the former on the Little Ouse, upon the Suffolk border, the latter a few miles to the S.W. of Norwich. Thetford, now an inconsiderable place, was of great importance in Anglo-Saxon times, and was for a brief period (towards the close of the 11th century) the seat of a bishopric, transferred from Elmham thither. The village of Elmham (or North Elmham), five miles N. of East Dereham, was an East Anglian see during a term of four centuries, and still exhibits some traces of its former cathedral and episcopal residence.

29. SUFFOLK has an area of 947,681 acres, or 1,481 square miles. It is a maritime county, bordering on the German Ocean. The Waveney and Little Ouse rivers divide it, on the north, from Norfolk, and the course of the river Stour separates it, to the southward, from Essex.

* See *ante*, p. 195.

The boundary-line between Suffolk and Cambridgeshire, on the west, is artificial, excepting where the course of the river Lark (an affluent of the Ouse) forms, for a short distance, the frontier between the counties.

Suffolk has no high grounds of any considerable prominence. The surface, however, is by no means flat, excepting within some parts of the tract bordering the sea, in the east, and also within a small district in the extreme north-west of the county. In general the land exhibits a succession of gentle undulations, reaching a moderate elevation in the central and western portions of the interior. The level tract in the north-western corner of the county belongs to the district of the fens.

The principal rivers are the Waveney, Blyth, Alde, Deben, Orwell, and Stour, all of which have a general eastwardly or south-eastwardly course to the German Ocean. The first-named flows along the Norfolk and Suffolk border. The Alde, Deben, Orwell, and Stour, all form considerable estuaries in the lower portions of their channels. The Orwell, the most important river of the county, is only known by that name from the sea up to Ipswich, above which town it is called the Gipping. Vessels of considerable tonnage ascend the Orwell to the quays of Ipswich. The Orwell and Stour unite in a single estuary immediately above the sea. The western portion of the county is watered by the Little Ouse (on the Norfolk border) and the Lark, which latter stream is navigable from the town of Bury St. Edmunds downwards to its junction with the Great Ouse.

The geology of Suffolk has a general resemblance to that of the adjacent county of Norfolk. In the east are beds of diluvium, together with crag, and (in a small part of the south-east, between the rivers Orwell and Stour) clays belonging to the London basin. Nearly all the rest of the county is within the chalk district. The "crag" of Suffolk is divided into red crag and coralline crag, the former of which is distinguished by its ferruginous or ochreous colour.

Suffolk is almost entirely an agricultural county; arable husbandry is principally pursued, but much attention is paid to the management of the dairy and to the rearing of sheep. Hogs and poultry are very abundant, and turkeys are numerously reared. There are also a great many extensive rabbit-warrens.

Suffolk is divided into 21 hundreds. Its towns are :—

	Pop.		Pop.		Pop.
IPSWICH	37,949	WOODBIDGE	5,161	ALDBOROUGH	1,627
NEEDHAM		DEBENHAM	1,653	ORFORD	1,106
MARKET	1,367	FRAMLING-		Dunwich	294
STOW		HAM	2,450	SOUTHWOLD	2,109
MARKET	3,161	SAXMUNDHAM	1,180	HALESWORTH	2,662

	Pop.		Pop.		Pop.
LOWESTOFT .	6,781	CLARE .	1,769	BURY ST.	
BECCLES .	4,266	Long Mel-		EDMUNDS .	13,316
BUNGAY .	3,841	ford .	2,587	MILDENHALL	1,760
EYE .	2,430	SUDBURY .	6,043	Ixworth .	1,189
Mendlesham	1,442	Nayland .	1,153	Botesdale .	626
		LAVENHAM .	1,811	BRANDON .	2,215
HAVERHILL .	2,535	HADLEIGH .	3,716		

Ipswich and Bury St. Edmunds are parliamentary boroughs, each returning two members. The borough of Eye returns one member. The county of Suffolk returns four members - two for each of its divisions (East and West).

Ipswich, the county-town of Suffolk, stands on the river Orwell, about ten miles above its mouth. It possesses great trade in corn and coals, and the business of malting is carried on to a large extent. Ipswich is distinguished by its extensive manufacture of agricultural implements and machinery, and exhibits a great increase of size within a recent date. *Woodbridge*, on the right bank of the Deben estuary, is eight miles E.N.E. of Ipswich.

Lowestoft (on the coast), nine miles to the south of Yarmouth, is connected with the river Waveney, an affluent of the Yare, by lake Lothing and an artificial cut, and has some share in the export trade of Norwich; it is also used as a port for landing cattle and dairy produce, brought from Holland and other countries on the eastern side of the North Sea. *Beccles* and *Bungay* are both on the south bank of the Waveney. *Dunwich*, referred to in a preceding chapter (p. 106), is on the east coast of Suffolk, nine miles N. of Aldborough. *Sudbury*, on the left bank of the river Stour, and adjacent to the Essex border, has a considerable corn-market, together with some manufacture of textile fabrics — chiefly silk and horse-hair.

Bury St. Edmunds, in the western part of Suffolk, on the river Lark, was a place of great importance in Saxon times, and possesses the fine remains of an ancient abbey; it has considerable corn and cattle markets. *Brandon*, 15 miles N. by W. of Bury, is on the Little Ouse river, immediately adjacent to the Norfolk border.

30. ESSEX, a maritime county, has an area of 1,060,549 acres, or 1,657 square miles. It is limited to the east and south by the German Ocean and the estuary of the Thames. The Stour, by which Essex is divided from Suffolk, forms part of its northern border. The river Lea, with its affluent the Stort, mark great part of its western border, on the side of Middlesex and Hertfordshire. In the north-western corner of the county, along Cambridgeshire and part of Hertfordshire, the border-line is artificial.

The southern and eastern portions of Essex, along the Thames and the sea-coast, are generally flat, and, in their natural state, marshy. But the greater part of the county exhibits an undulating surface, rising in a few localities into hills of gentle slope and moderate altitude. Langdon Hill, in the south (five miles S. of Billericay), 620 feet high, is probably the highest point in the county. Danbury Hill, between Chelmsford and Maldon, is perhaps nearly as high. Both of these hills are connected with a range of moderately elevated ground, which crosses the county in the direction of N.E. and S.W., past Witham, and between the towns of Maldon and Colchester, by Billericay and Brentwood, towards the banks of the Roding. Epping Forest, between the Roding and the Lea, is also moderately elevated, High Beach, on its N.W. side, being 390 feet in altitude.

The chief rivers of Essex are the Thames, the Crouch, the Blackwater, the Chelmer, and the Stour, with their various affluents. The Thames is joined, on the side of Essex, by the Lea, the Roding, the Bourne brook, and the Ingerburn, the two former of which are of the chief importance. The Lea is joined, on the Essex and Hertfordshire border, by the Stort, which comes from the last-named county. Both the Lea and the Stort are navigable for small vessels; as also is the Roding, as far up as Ilford.

The Crouch, Blackwater, Colne, and Stour, form estuaries, that of the Blackwater, into which the Chelmer discharges, being the most extensive. The Blackwater is not navigable above the head of its estuary: all the others are navigable for some distance inland, the Crouch up to the head of the tide-water (13 miles above its mouth), the Chelmer to the town of Chelmsford, the Colne up to Colchester, and the Stour up to Sudbury.

The Cam rises within the north-western portion of the county, and flows northwardly into Cambridgeshire.

A number of low and marshy islands are found upon the coasts of Essex. Several of these were formerly liable to be overflowed by the adjacent sea, at spring tides, and are only protected from inundation by means of sea-walls and embankments. Some of the works formed for this purpose date from the early part of the seventeenth century. The water on most of these islands is too brackish for ordinary use. Their soil has been rendered, in many cases, highly productive: they form excellent pastures, and yield, in parts, good crops of corn. The principal islands are—Canvey Island, within the estuary of the Thames; Foulness, Wallasea, Potten, New England, Haven Gore, and Russelys islands, between the Thames and the Crouch estuaries; Northey and Osey Islands, in the estuary of the Blackwater; Mersea Island, between the Black-

water and the Colne; with Horsey, Pewit, and Holmes, off the N.E. coast of the county, within the gulf that is formed by the projecting headland of the Naze. Mersea Island, which has an area of 4,830 acres (or $7\frac{1}{2}$ square miles), is connected with several important events in early English history.*

Geologically, the greater part of Essex falls within the basin of the London clay. The marsh lands of the eastern and southern coast consist of freshwater deposits, of recent formation. A tract in the extreme north-east, between the Colne and the Stour, exhibits strata of sand and gravel, analogous to the "crag" of Norfolk and Suffolk. The north-western corner of the county is within the chalk district. Chalk also appears near the banks of the Thames, in the neighbourhood of Purfleet and Greys Thurrock.

Essex is wholly an agricultural county, and yields abundant crops of grain. The best soils are in many cases found with the low marsh lands near the coast, which have necessitated the most skillful culture to bring them to their present high condition of produce, and require to be protected from the inundation of the adjacent water. The pasture lands are extensive. Many parts of the county are well wooded, particularly its south-western division, where Epping and Hainault Forests are situated.

Essex is divided into 20 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
CHELMSFORD	6,033	MANNING-		ROMFORD	3,791
DUNMOW	3,235	TREE	1,176	BRENTWOOD	2,205
INGATESTONE	860	HARWICH	5,062	BARKING	9,888
THAXTED	2,556	Walton-on-		ONGAR	843
BRAINTREE	4,340	the-Naze	729	HARLOW	2,322
COGGESHALL	3,580	BILLERICAY	1,533	WALTHAM	
WITHAM	3,303	BURNHAM	1,869	ABBEY	2,329
MALDON	4,798	RAYLEIGH	1,463	EPPING	1,821
HALSTEAD	5,658	ROCHFORD	1,704	SAFFRON	
COLCHESTER	23,815	Southend	1,154	WALDEN	5,911

Colchester, Harwich, and Maldon, are parliamentary boroughs, each returning two members. The county of Essex returns four members—two for each of its divisions (North and South).

Chelmsford, the county-town of Essex, situated on the river Chelmer, at the confluence of the Cann (which joins the Chelmer on its right bank), is only of local importance, chiefly as a market for agricultural produce.

Colchester, on the banks of the river Colne, a few miles above its

* See *ante*, p. 105.

mouth, is the most considerable place in the county, and possesses historic interest in superior degree to any other. Its siege by the Parliamentary army, under Fairfax, in 1648, forms one of the most stirring episodes of the Civil War. Fragments of the former city walls, as well as a portion of the old castle, still remain. Colchester had formerly extensive manufactures of baize and other woollen goods, but these have entirely ceased. It exports agricultural produce, and the oyster-fishery is largely carried on here and at other parts of the Essex coast, on all the rivers and estuaries along which oysters are bred in vast numbers.

Harwich, a sea-port at the mouth of the Stour, has some ship-building, and is a place of embarkation for the Netherlands: it is also frequented as a bathing-place. *Walton-on-the-Naze* (or *Walton-le-Soken*), a favourite watering-place, is on the north-eastern coast of the county, a short distance south of the headland from which its distinguishing appellation is derived. *Southend*, on the estuary of the Thames, shortly before its waters unite with those of the sea, enjoys similar reputation as a place of summer resort, and owes to this its increase in size within recent years.

VI. SOUTH-EASTERN DIVISION.

31. SURREY has an area of 478.792 acres, or 748 square miles. The river Thames, which flows along its northern border, divides it from Middlesex. In other directions, the limit of the county is marked by an artificial line, excepting along a part of the western border, where it coincides with the course of the Blackwater river, an affluent of the Berkshire Loddon.

The most characteristic feature in the physical geography of Surrey is found in the range of chalk which extends across the whole length of the county, from east to west, between the Kentish and Hampshire borders. This belongs to the extended chain of high ground elsewhere described under the name of the North Downs.* In east Surrey, the chalk occupies a breadth of some miles; but between Guildford and Farnham, in the western part of the county, it is limited to a narrow ridge, extending between those towns in a nearly straight line, and known by the name of the Hog's Back. This range of chalk has its highest elevation in Botley Hill, near Titsey (not far from the border of Kent), which is 880 feet high.

The chalk range of Surrey, however, does not comprehend the

* See chap. ii. p. 32.

highest ground in the county, nor does it form a watershed. Like the chalk elsewhere in the south of England, it is broken by several depressions, through which the rivers that have their origin south of the range flow to the northward, towards the valley of the Thames. One of these depressions occurs on the west side of Box Hill, in the neighbourhood of Dorking, and affords a passage to the river Mole. Another depression, farther westward, is traversed by the river Wey. A third, in the neighbourhood of Farnham, not far from the Hampshire border, is within the valley of the same river.

The highest elevation in the county is Leith Hill, 993 feet, four miles S.S.W. of Dorking. This belongs to the greensand formation, which crops out along the whole southern line of the chalk, and forms a succession of high grounds, or "commons," stretching in a direction parallel to that range. Hind Head Common, which is nearly as high (923 feet), in the south-western corner of the county, belongs to the same formation.

That portion of the county which lies north of the chalk range above referred to has a general descent to the banks of the Thames, but comprehends some distinct tracts of high ground, and exhibits a surface which is in parts highly diversified. The rising grounds which stretch immediately to the south and south-west of the metropolis, from the neighbourhood of Norwood and Streatham on the east to Richmond on the west; the elevated tract of Banstead Downs (to the S.W. of Croydon), and the adjacent grounds of Epsom and Leatherhead Commons; the hills about Esher and Cobham, near the right bank of the Mole, with St. George's Hill between the Mole and the Wey, and Woking Heath, to the west of the last-named river; and the high tracts of heath within the north-western corner of the county, extending from the neighbourhood of Chertsey to the Berkshire and Hampshire border (inclusive of Bagshot Heath and Chobham Ridge), are among the most conspicuous of these. The hills about Norwood reach nearly 400 feet. The highest portions of Banstead Downs are 576 feet. The highest ground about Bagshot does not exceed 463 feet.

The chief rivers of Surrey, besides the Thames, are the Wey, the Mole, and the Wandle, all of which flow into the Thames. In addition to these are the Bourne Brook, which joins the Thames immediately above the outlet of the Wey (to which stream it sends a branch shortly above the junction), and the Hog's Mill river, a small stream which enters the Thames above Putney. Nearly the whole county is within the basin of the Thames: a small tract in the extreme south-east is drained by affluents of the Medway, and a portion in the south-west is watered by a stream that flows southward into the Arun.

The geology of Surrey exhibits (stretching through the middle of

the county, in the direction above indicated) chalk, accompanied on the south by chalk marl and greensand. To the southward of the latter, and occupying nearly the whole southern border of the county, are Wealden clay, and in the extreme south-east, iron-sand. All this southern belt of Surrey is included within the tract known as the Weald.*

Nearly all that part of Surrey which is between the line of chalk hills and the course of the Thames falls within the basin of the London and plastic clays. The high grounds in the north-west of the county, embracing Bagshot Heath and the ridges in the neighbourhood of Chobham, are distinguished from other portions of this area; they are composed of the strata of siliceous sandstone and sands generally described by geologists as the "Bagshot sand," and form, for the most part, mere sandy wastes. Besides chalk, the mineral produce of Surrey includes flint and chalcedony, chert, fullers' earth, and sulphate of barytes.

The industry of Surrey, excepting within that portion of the county which is included within or adjoins the metropolis, is chiefly agricultural. Market-gardening is extensively carried on within the tract of country adjacent to London. Elsewhere, a large proportion of the soil is under tillage, and the usual cereal crops are raised. Hops are extensively grown in the south-west, in the neighbourhood of Farnham. The Weald tract, in the south and south-east, formerly densely wooded, still contains a large quantity of timber.

Surrey is divided into 14 hundreds. Besides that portion of the metropolis which is within its limits (and in which the boroughs of Southwark and Lambeth, with the suburban districts and villages of Camberwell, Peckham, Dulwich, Brixton, Clapham, Streatham, Tooting, Mitcham, Merton, Wimbledon, and Battersea, are included), Surrey contains the following towns:—

	Pop.		Pop.		Pop.
GUILDFORD .	8,032	KINGSTON .	9,114	Ewell .	2,186
GODALMING .	4,657	RICHMOND .	9,065	Leatherhead	2,041
FARNHAM .	3,515	Barnes .	1,879	DORKING .	3,490
Bagshot .		Kew .	1,009	REIGATE .	1,640
Egham .	4,482	Wandsworth	9,611	CROYDON .	10,260
CHERTSEY .	2,743	EPSOM .	3,390	HASLEMERE .	955

The metropolitan boroughs of Southwark and Lambeth, and also the borough of Guildford, each return two members to the House of Commons. The borough of Reigate returns one member. The county of Surrey returns four members—two for each of its divisions (East and West).

* See *ante*, pp. 33, 41.

Guildford, the county-town of Surrey, stands on the right bank of the river Wey, in the depression between the chalk ridge through which that stream passes, at a distance of 30 miles (by the South-Western railway) from London. It is of early Saxon date, being mentioned in the will of Alfred the Great, and has the remains of an old Norman castle. *Godalming*, four and a half miles to the S.W. of Guildford, adjoins the right bank of the Wey, which is navigable up to this point. There are paper and other mills on the banks of the Wey, in the vicinity both of Guildford and Godalming. *Farnham*, which is also within the valley of the Wey, and on its left bank, lies near the Hampshire border. It is of early Saxon date, and its present castle, built in the 17th century, occupies the site of an older edifice of Norman origin. *Haslemere*, in the extreme S.W. of the county, is a decayed place, formerly of much larger size and importance.

Kingston, a town of great antiquity, probably as old as the Roman period, and the place where several of the Saxon monarchs received their crowns, stands on the S. bank of the Thames, at the point where the Hogs' Mill brook joins that river. The recent developement of the railway system has caused a great increase in this side of the town, and a southwardly extension of it, known as New Kingston, has grown into existence beside the line of the South-Western railway.

Chertsey, in the N.W. part of Surrey, lies near the Thames, within a tract of meadow land enclosed between that river and a small brook * that issues from Virginia Water, on the line of the county border. *Egham*, a populous village, farther to the N.W., also lies near the Thames, and is less than two miles distant from Staines, on the Middlesex side of the river. Near Egham is Runnymede — "a pleasant-looking strip of meadow-land" adjoining the Thames — where the confederated barons, in the summer of 1215, met King John, and compelled his signature of Magna Charta. A small island in the adjacent river bears the name of Magna Charta Island.†

The town of *Croydon*, ten miles south of London Bridge, has been brought into much nearer proximity with the southern suburbs of the metropolis, owing to their vast and growing extension, within recent years, in that direction. It has greatly increased in size

* Hence the name, which is of Saxon origin — Ceorte's Eye or island — the ground being nearly insulated by the adjacent waters.

† Popular tradition regards this island, as its name implies, as the spot where the treaty was signed. But the adjacent meadow, the name of which is said to signify "the Mead of Council," appears to have been the real scene of the transaction.

during the same period. *Reigate*, 11 miles from Croydon in the direction of S.S.W., and 16 miles E. of Guildford, lies at the southern foot of the chalk range, and two miles distant from the right bank of the Mole. *Dorking*, six miles farther to the west (10 miles to the eastward of Guildford, and 29 miles from the metropolis by railway), lies near the left bank of the river Mole, and also near the southern foot of the chalk range.

32. KENT has an area of 1,041,479 acres, or 1,627 square miles. It is a maritime county, forming the south-eastern corner of England, and approaching nearer than any other to the shores of the continent. The estuary of the Thames, the German Ocean, the Strait of Dover, and the opening portion of the Channel, form the limits of Kent on the north, east, and south-east. Its western and southern border-lines, upon the side, respectively, of Surrey and Sussex, are chiefly artificial: the river Rother, however, runs for some miles along the Sussex border, as also does, for a short distance, one of the small affluents of the Medway.

Kent is generally a hilly county. Its elevations are nowhere very considerable, the highest ground being little more than six hundred feet above the sea; but the surface is nearly throughout diversified by hill and dale, exhibiting, especially, the broad, rounded, and swelling eminences, to which the appellation of "downs" is given, and which are characteristic of the chalk formation in this part of the island. The chalk of the North Downs traverses the whole county from east to west, and spreads, to the eastward of the river Stour, over nearly its entire breadth, its only interruption consisting in a marshy tract which borders the Isle of Thanet to the west and south. In the middle and western portions of the county, the chalk downs are of less considerable breadth. Their highest point appears to be Paddlesworth, three miles N.W. of Folkestone, which is 642 feet high: Hollingbourne hill, between five and six miles E. of Maidstone, is 616 feet; the hills immediately above Folkestone reach 575 feet, and Dover Castle hill is 469 feet.

The country between the North Downs and the northern coast-line of Kent is generally of moderate elevation, excepting in the tract that adjoins the lower Medway upon either side, including the southern half of the Isle of Sheppey. To the southward of the chalk downs, the ground is also diversified in aspect, especially in the tract lying east and west of the Medway, above Maidstone, where a range of hills (known from their geological characteristic as the "ragstone range") overlooks from the northward the valley watered by the upper Medway, and its tributaries the Eden and the Bault. The highest points of

this range are from 600 to 800 feet. The valley at their base, with the remainder of the county, excepting in the extreme south-east, falls within the Weald. The south-eastern corner of the county, a level tract of considerable extent, comprehends Romney and Denge Marshes, which form rich meadow-lands.

The chief rivers of Kent (besides the Thames) are the Ravensbourne, the Darent, the Medway, and the Stour, all of which, excepting the last-named, flow northward, and discharge on the northern coast-line of the county. The Darent, the Medway, and the Stour, all flow, in portions of their course, through natural openings or depressions formed in the chalk downs. The Darent is joined on its left bank, a mile below the town of Dartford, by the river Cray.

The Medway rises in Sussex, and enters Kent about five miles W. of Tunbridge Wells. The Eden, which comes from Surrey, joins its left bank at Penshurst (five miles above the town of Tunbridge). The Teyse and the Beult (the latter of which is the longer stream) both join the Medway on its right bank, at Yalding, about midway between Tunbridge and Maidstone. The navigation of the Medway begins at Penshurst.

The Stour is formed by two small streams, which unite their waters at Ashford, whence the river flows north-east and east, by Canterbury, into the sea at Pegwell Bay, forming, in the lower portion of its course, the southern border of the Isle of Thanet. A branch which it throws off to the northward, and which borders Thanet on the west, was formerly a navigable stream, though now a mere ditch.* A stream called the Lesser Stour, which comes from the south-westward, and a portion of which sometimes dries up, joins the Stour on its right bank, near the S.W. corner of the Isle of Thanet.

The geology of Kent has its distinguishing attribute in the chalk formation above described. The northern belt of the county, between the chalk and the estuary of the Thames, including the northern half of the Isle of Sheppey, belongs to the London and plastic clays. The Isle of Thanet consists of chalk, bordered on the west and south by a band of tertiary deposit.

The chalk is bordered on the south by a belt of chalk marl and greensand, the latter of which areas includes, in the south-west, the "ragstone" range of hills above referred to. The southern border of the county, with the exception of Romney Marsh and the adjoining marshes, belongs to the Wealden formation, and includes (along

* See chap. ii. p. 45.

the Sussex border) a belt of iron-sand, which was formerly worked on a scale of some magnitude.* Chalk and limestone are the chief minerals which the county now furnishes.

Kent is principally an agricultural county, excepting along its extensive seaboard, where commercial industry, in connection with maritime pursuits, forms the prevailing characteristic of its industry. The greater part of the county is well wooded. The agricultural produce is various and abundant. Hops are extensively grown in some districts, particularly in the low grounds about Canterbury and Maidstone. Orchards are numerous, and cherries are an especial object of culture. The wheat and other grains are of the best description.

Kent is divided into five lathes. It includes the following towns:—

	Pop.		Pop.		Pop.
MAIDSTONE .	22,984	WESTERHAM	2,113	FAVERSHAM	4,595
TUNBRIDGE .	4,539	SEVEN OAKS	1,850	SITTINGBOURNE	2,897
TUNBRIDGE		DARTFORD .	5,763	MILTON .	2,407
WELLS .	10,587				
GOULDHURST	2,594	ASHFORD .	5,007	DEAL .	7,531
ROCHESTER .	16,672	WYE .	1,724	DOVER .	24,970
CHATHAM .	36,177	LENHAM .	2,070	FOLKESTONE	8,528
SHEERNESS .	8,549	CANTERBURY	21,323	Sandgate .	979
GRAVESEND .	18,776	SANDWICH	2,893	HYTHE .	2,998
WOOLWICH .	32,367	RAMSGATE .	11,838	NEW ROMNEY	1,053
GREENWICH .	35,028	MARGATE .	9,107	Lydd .	1,605
DEPTFORD .	27,896	Herne Bay .	1,500	TENTERDEN .	3,901
BROMLEY .	4,127	Whitstable .	3,086	CRANBROOK .	1,652

The cities of Canterbury and Rochester, and the parliamentary boroughs of Maidstone, Greenwich,† Dover, and Sandwich, each return two members to the House of Commons. The boroughs of Chatham and Hythe return one member each. The county of Kent returns four members—two for each of its divisions (East and West).

Maidstone, the county-town of Kent, is situated in the central part of the county, upon the right bank of the river Medway. It lies in the midst of a fertile district, within which are extensive hop plantations and orchards. Maidstone possesses numerous paper-mills, and has considerable local trade.

* See *ante*, p. 201.

† The parliamentary borough of Greenwich includes, besides Greenwich, the towns of Deptford and Woolwich. The town of Deal is united with Sandwich for the purpose of parliamentary representation.

Tunbridge, 12 miles S.W. of Maidstone, stands on the banks of the Medway, and enjoys considerable local trade, partly by means of the river. The larger town of *Tunbridge Wells*, which owes its origin to its chalybeate spring, is between four and five miles to the S. of Tunbridge, and adjacent to the Sussex border.

Canterbury, situated on the banks of the Stour, in the eastern part of Kent, is an ancient ecclesiastical city, the metropolitan see of England. It is a place of early British origin, and was important both in Roman and Saxon times. Canterbury derives its chief interest from its ancient cathedral, and its many other remains of antiquity; its chief trade is in corn, hops, and wool, the produce of the surrounding district.

Woolwich, upon the south bank of the Thames (a few miles to the eastward of London), is the great dépôt for artillery, and has a royal arsenal, which contains foundries and establishments for every description of engineering and military stores. *Gravesend*, also on the Thames, 15 miles farther east, is much resorted to by the people of the metropolis for purposes of pleasure. *Chatham* and *Rochester* are adjacent towns, both situated on the east side of the Medway, at the commencement of its estuary. Chatham has a dockyard, and extensive establishments for the preparation of naval stores. Rochester is a cathedral city, of very early origin, and possesses the ruins of an ancient castle. At the mouth of the Medway, upon the island of Sheppey, is the port of *Sheerness*, which has an extensive dockyard. *Margate* and *Ramsgate* are both situated on the Isle of Thanet, at the N.E. extremity of the county; like many other places on the coasts of Kent and Sussex, they are the resort of great numbers of the inhabitants of London during the summer. Ramsgate possesses a good harbour.

Sandwich, *Deal*, *Dover*, *Folkestone*, *Hythe*, and *New Romney*, are included among the cinque ports, which have been elsewhere referred to.* *Deal* is situated on that part of the coast which faces the channel of the Downs, a great rendezvous for shipping. *Dover* derives importance from its situation at the point of the coast which lies nearest to the continent, and owns additional distinction from its connection with numerous events of English history, from the earliest times. Its ancient castle comprehends an extensive pile of buildings, situated on a height which overlooks the town; the greater part of these are now in ruins, and are of various ages—some of Roman times. The direct distance between Dover and Calais is only 21 miles, and the white cliffs of the opposite coasts are distinctly visible from either side of the Channel. *Folkestone*, six miles

* See chap. x. p. 187, note.

to the S.W. of Dover, had early repute as a seaport. After a lengthened period of intervening decay, it has acquired greatly-increased importance within recent years from its connection with the South-Eastern railway, and its usage as a place of communication with the continent. It has become, within the same period, a much-frequented watering-place. *Sandgate*, also a frequented place of summer resort, is on the coast, two miles to the westward of Folkestone.

33. SUSSEX has an area of 934,851 acres, or 1,458 square miles. It is a maritime county, bordered on the south, through its entire length, by the waters of the Channel. Beachy Head and Selsea Bill, two conspicuous headlands, belong to the Sussex coast. The river Rother, on the north-east, flows along part of the border of the county on the side of Kent: the rest of the inland border is marked by an artificial line.

Sussex has a highly diversified surface. The chalk range of the South Downs stretches through the southern portion of the county, from Beachy Head westward into Hampshire. Between Beachy Head and Shoreham (a short distance west of Brighton) the chalk of the Downs reaches the edge of the sea: from Shoreham westward, the hills gradually recede from the coast, leaving an interval of increasing breadth along the line of shore. The chalk of the South Downs attains in Ditching Beacon (nearly due north of Brighton) a height of 858 feet. Firle Beacon (5 miles S.E. of Lewes) is 820 feet; Chanctonbury Ring (6 miles N. of Worthing), 814 feet; and Rook's Hill Beacon (4 miles N. of Chichester), 702 feet. The cliffs of Beachy Head reach 564 feet. The mean elevation of the range is about 500 feet.

A distinct range of high ground extends through the eastern and northern portions of the county, from the neighbourhood of Hastings, past the town of Battle, and by Brightling and Crowborough westward towards Horsham and Petworth. This range (which is geologically as well as geographically distinct from the South Downs) is sometimes called the Forest Ridge, from the fact of its extending along the wooded tract of country formerly known as the Weald, and within which Ashdown and St. Leonards Forests are still found. The Forest Ridge comprehends a greater variety of hill and dale than any other part of the county. Crowborough Beacon, within its course (13 miles N.E. of Lewes), has a height of 804 feet; Brightling Down (5 miles N.W. of Battle), of 646 feet; and Fairlight Down (near Hastings, to the N.E.), of 599 feet. The central portion of the county, between these two ranges of high ground, is an undulating and wooded tract, principally included within the Weald.

The chief rivers of Sussex (enumerated from east to west) are the Rother, the Cuckmere, the Ouse, the Adur, the Arun, and the Lavant, all of them flowing into the Channel. The Rother drains the northward slopes of the Forest Ridge, and, after forming for some miles the Sussex and Kentish border, bends to the south-west and south, past the town of Rye. Where it leaves the Kentish border, the Rother, with some small affluent streams from the Weald of Kent, encloses the river-island of Oxney, which is partly within either county. The Rother is navigable up to Newenden. Two streams, called the Tillingham and the Brede rivers, join the Rother on its right bank, the former immediately below the town of Rye, the latter a mile and a half nearer the sea.

The Cuckmere, Ouse, Adur, and Arun rivers, all pass, on their way to the sea, through natural depressions in the chain of the South Downs. All but the first-named are navigated by barges and small vessels for considerable distances inland, and ships drawing 13 feet of water can ascend the Arun up to the town of Arundel, six miles above the sea. The Lavant has its source to the southward of the chalk downs, and, passing Chichester (above which city it is an insignificant stream), enters the extensive estuary of Chichester Harbour.

The river Medway rises within Sussex, and flows in an easterly direction through the northern part of the county (passing two miles south of East Grinstead) to the Kentish border, which it meets near Ashurst, between 5 and 6 miles W. of Tunbridge Wells.

The geology of Sussex exhibits as its main features, 1st, the chalk of the South Down range; and, 2nd, the extensive series of clays, sandstones, sands, and gravels, known as the Wealden formation. The chalk is extensively quarried, for conversion into lime. The tract which, in the western part of the county, intervenes between the downs and the sea, belongs to the Plastic and London clay basin. On the north, the outcrop of the chalk is marked by chalk-marl, succeeded by gault and greensand—the lowest members of the chalk series.

The Wealden strata occupy more than half the county, extending over all its central and eastern portions. The basis of the whole of this extensive tract is formed by a tenacious clay, containing subordinate beds of limestone and sand, with nodules of argillaceous ironstone abundantly interspersed in many parts.* A kind of bluish-grey limestone, of shelly texture, and composed of the remains of

* The Wealden formation has become popularly known by the numerous extinct saurians and other gigantic reptiles found within its limits.

freshwater univalves, capable of bearing a high polish, and known as "Sussex marble," is worked in many parts of this district. The name of "Hastings Sand" is given to the various beds, composed of alternate sands, friable sandstones, shales, and clays, which belong to the Wealden deposits in the more eastwardly portion of the county. The beds in the neighbourhood of Ashburnham (three miles W. of Battle) contain abundance of argillaceous ironstone, which was once extensively worked.*

Sussex is altogether an agricultural county. Pastoral husbandry predominates, within the greater part of the county, over tillage. The soil within the Wealden district is generally poor. But the marsh lands, and also the chalk downs, constitute admirable pasture grounds, and the sheep reared upon them are well known for the excellent mutton which they supply. Hops are much grown in the eastern part of the county.

Sussex is divided into six rapes. Its towns are:—

	Pop.		Pop.		Pop.
LEWES .	9,709	WINCHELSEA	778	BRIGHTON .	77,693
NEWHAVEN .	1,358	RYE .	3,794	WORTHING .	5,370
SEAFORD .	997	Mayfield .	1,313	Littlehampton	2,436
HAILSHAM .	1,825	EAST GRIN-		ARUNDEL .	2,488
Eastbourne .	3,433	STEAD .	3,820	PETWORTH .	2,427
Pevensey .	412	HORSHAM .	5,947	MIDHURST .	7,021
HASTINGS .	23,098	CUCKFIELD .	3,196	CHICHESTER	8,040
BATTLE .	3 849	STEYNING .	1,464	BOGNOR .	1,913
		SHOREHAM .	2,590		

The city of Chichester, and the parliamentary boroughs of Lewes, Brighton, Hastings, and Shoreham,† each return one member to the House of Commons. The boroughs of Rye, Horsham, Arundel, and Midhurst, return one member each. The county of Sussex returns four members—two for each of its divisions (East and West).

Lewes, situated on the banks of the river Ouse, forms the county-town of Sussex: it has been referred to elsewhere in connection with the battle to which its name is given.‡ *Newhaven*, at the mouth of the Ouse, is the port of Lewes, and a place of departure for steam-vessels to the opposite coast of France.

Brighton, on the coast, 46 miles nearly due south of London, has been rendered important by the constant resort of visitors from the

* See chap. x. p. 202.

† The borough of Shoreham comprehends the entire rape of Bramber, with the exception of the borough of Horsham.

‡ See chap. ix. p. 162.

metropolis during a period of more than half a century, and is one of the most magnificently-built towns in the kingdom. *Shorcham* (5 miles W. of Brighton) extends along the left bank of the river Adur, a short distance above its outlet to the sea, and is a port of some commercial importance, as well as a frequented watering-place. *Worthing*, also of great resort as a summer watering-place, is on the coast, four miles further to the westward.

Hastings, on the coast of East Sussex, possesses some importance as a fishing town, but has derived greater note within recent years as a sea-side resort and watering-place, owing in great measure to the mildness of its winter climate. The advantages enjoyed by the locality in this regard have called into existence the adjacent watering-place of St. Leonards, formerly a distinct place, but now become, by the rapid extension of buildings, a western suburb of Hastings. The town of *Battle*, with the remains of its ancient abbey, is seven miles to the N.W. of Hastings.*

Chichester, in the western part of Sussex, about five miles distant from the sea, is a cathedral city, of Roman origin, and the capital of the South Saxon kings. The bishopric of which it is the seat was removed thither from Selsey (a village 7 miles to the southward, on the headland called by its name), towards the close of the 11th century. Chichester has a great market for agricultural produce.

The town of *Arundel*, situated on the right bank of the river Arun, four miles above the sea, is chiefly noteworthy on account of its ancient castle, the patrimonial inheritance of the dukes of Norfolk, and of which the keep and other portions still remain entire. *Littlehampton* is at the mouth of the Arun. *Bognor*, also on the coast, five miles further W., is a much-frequented watering-place.

34. HAMPSHIRE, a maritime county, has an area (including the Isle of Wight) of 1,070,216 acres, or 1,672 square miles. Its southward limit is formed by the English Channel. Its inland frontier is marked by an artificial line, excepting on the north and north-east, where it coincides for some distance with the streams of the Emborne and the Blackwater. The former of these parts Hampshire and Berkshire, afterwards passing into the last-named county. The Blackwater forms part of the north-eastern border of the county, on the side of Berkshire and Surrey.

The coast-line of Hampshire includes the inlets of Southampton Water, Portsmouth Harbour, and Langston Harbour, besides the channel of the Solent, between the Isle of Wight and the mainland. Portsmouth and Langston Harbours are separated by Portsea Island,

* See *ante*, p. 129.

now only divided from the mainland by a narrow creek. To the east of Langston Harbour is Hayling Island, between which and the mainland there is a considerable arm of the sea. To the east of Hayling Island is an extensive estuary, within which is Thorney Island: the eastern side of this inlet forms Chichester Harbour, and belongs to Sussex.

Hampshire exhibits, in most parts, a diversified surface, the higher grounds forming eminences of gentle slope, with broader and swelling tracts of down-land between. The chalk ranges of both the North and the South Downs enter the county — the former from Surrey, the latter from Sussex — and traverse it in the direction of east and west. The South Downs exhibit their highest elevation in Butser Hill, to the S.W. of Petersfield, which reaches 917 feet. The North Downs are of lower average elevation, as well as less continuous, but they attain in the extreme north-western corner of the county to a greater height. Inkpen Beacon, on the Hampshire and Wiltshire border (ten miles N. of Andover) reaches 1,011 feet, and is the highest chalk hill in the island. Highclere Beacon, immediately to the eastward, reaches 900 feet. In the east of Hampshire, the range of high ground which extends from Butser Hill northward, past Alton, forms a connection between the North and the South Downs. This transverse chain is known as the Alton Hills.*

A detached range of chalk, seven miles in length by one mile in breadth, called Portsdown, runs in the direction of east and west, near the coast, and immediately to the northward of Portsmouth Harbour.

The south-western division of Hampshire includes the tract of the New Forest, the greater part of which has an undulating surface, of great variety and beauty. Portions only of this tract are thickly wooded in the present day. Hampshire includes also the Forest of Bere, in the S.E. part of the county, with Alice Holt and Woolmer Forests, towards the eastern border. The natural features of the Isle of Wight have been described elsewhere.†

The principal rivers of Hampshire are the Anton or Test, the Itchin, and the Avon, the two former of which are entirely within the county. The Anton or Test flows into the head of Southampton Water, at its western extremity, and the Itchin (which passes Winchester and Southampton) into a more eastwardly extension of the same estuary. The Itchin is navigable up to Winchester. The Avon enters the county from Wiltshire (after passing Salisbury) and has its outlet in Christchurch Bay.

Of smaller streams, Hampshire has — the Boldre (or Lymington

* See chap. ii. p. 33.

† Chap. ii. p. 44.

Water), and the Ex or Beaulieu river, both within the New Forest tract, in the S.W. of the county; the Hamble river, which flows into the east side of Southampton Water; and the Titchfield brook, which enters the sea near the opening portion of the same estuary. A portion of the county, on its eastern side, is within the basins of the Arun and the Wey. A stream distinguished as the western Rother, which joins the Arun, rises within Hampshire, and the Wey has its principal source within the county. The extreme north and north-east of Hampshire is watered by streams that belong to the Thames basin: these are, the Emborne river (on the border of Hants and Berks), which joins the Kennet, and the Loddon (with its affluents, the Blackwater and Whitewater rivers), which flows directly into the Thames.

The geology of Hampshire, like that of the south-eastern counties in general, is distinguished by the predominance of chalk. The North and South Downs, with the whole intervening area between those ranges, exhibit a substratum of chalk, lying at various depths below the surface. The north-eastern portion of the county, and also its south-western division (the latter inclusive of the New Forest), belong to the basins of the London and Plastic clays. Various clays and marls predominate in these latter districts. In the north-east, towards the Surrey border, the surface is generally heathy and unproductive, and the soil sandy and poor, like that of the adjacent Bagshot sands.

The chalk district of Hampshire comprehends fully half of the county. Two nearly parallel lines, drawn diagonally in the direction of N.W. and S.E. across the county, mark the extent of the chalk area. The more northwardly of these lines passes from the neighbourhood of Farnham in Surrey, by Odiham, Basingstoke, and Kingsclere, to the north-western corner of the county. The more southwardly crosses the county from a point near its south-eastern corner (above Havant) to its western border, which it touches nearly in the parallel of Salisbury, passing by the town of Bishops Waltham, and about three miles south of Winchester. All the space enclosed between these two lines belongs to the chalk series. To the east and south of Alton, the chalk is bordered by the upper greensand strata. The geology of the Isle of Wight has been noticed in a preceding page.

A large portion of the soil of Hampshire is devoted to pasturage: hogs, and also sheep, are reared in immense numbers. In the eastern part of the county, near Alton, a considerable number of acres is under hop-cultivation. Wheat and other cereals are, however, the general objects of its arable husbandry.

Hampshire is divided into 39 hundreds, which (for convenience of

administrative purpose) have been grouped into thirteen divisions. Its towns are : —

	Pop.		Pop.		Pop.
WINCHESTER	14,784	BASINGSTOKE	4,263	BISHOPS	
ALRESFORD .	1,618	ODIHAM .	2,811	WALTHAM	2,265
SOUTH-		ALTON .	3,538	LYMINGTON .	2,416
AMPTON .	46,970			Lyndhurst .	1,527
ROMSEY .	5,654	PETERSFIELD	5,550	FORDING-	
STOCKBRIDGE	1,066	EMSWORTH .	2,302	BRIDGE .	3,178
WHITCHURCH	1,911	HAVANT .	2,416	RINGWOOD .	3,928
ANDOVER .	5,187	PORTSMOUTH	94,546	CHRIST-	
		GOSPORT .	7,414	CHURCH .	9,386
KINGSCLERE .	2,885	FAREHAM .	3,451	Bournemouth	

In the Isle of Wight:—

	Pop.		Pop.		Pop.
NEWPORT .	7,934	YARMOUTH .	572	VENTNOR .	2,569
COWES .	4,786			RYDE .	7,147

The city of Winchester, and the boroughs of Southampton, Portsmouth, Andover, Lymington, and Newport (I. of Wight), each return two members to the House of Commons. Christchurch and Petersfield return one member each. The county of Hants (excluding the Isle of Wight) returns four members—two for each of its divisions (North and South). The Isle of Wight forms, for parliamentary purposes, a distinct county, and returns one member.

Winchester, a cathedral city of ancient origin, the Venta Belgarum of the Roman period, and the capital of the West Saxons, forms the county-town of Hampshire. Winchester stands on the right bank of the river Itchin, within a fertile valley bounded by chalk hills to the east and west.

Southampton (twelve miles S. by W. of Winchester, and eighty miles distant from London by railway), situated at the head of the estuary called Southampton Water, has considerably increased in importance since the construction, within the last thirty years, of its extensive docks, and is now the seat of a great foreign trade, especially with the Mediterranean countries. It is the chief station for the Mediterranean and the West India steam-packets. *Basingstoke*, an important centre of traffic by road and railway, and a great market for agricultural produce, is 17 miles N.E. of Winchester. A short distance from the town, to the north-eastward, is Old Basing, and, near the latter, Basing House, famous for its lengthened defence against the Parliamentarians during the period of the Civil War, when it was finally stormed by Cromwell, in 1645.

Portsmouth, the chief naval arsenal of England, is situated on the island of Portsea, which is divided from the mainland by a narrow creek. The arm of the sea which runs up to the westward of the town forms its harbour. The dockyard of Portsmouth is the largest in the kingdom, and has extensive naval storehouses and workshops. Opposite to Portsmouth, on the western side of the entrance to the harbour, is *Gosport*, which also contains numerous works for the supply of the navy. Both Portsmouth and Gosport are strongly fortified.

Lymington and *Christchurch* (the latter at the confluence of the Stour and Avon) are small towns adjacent to the south coast of Hampshire, and are resorted to as summer watering-places. A few miles west of Christchurch, on the coast, is *Bournemouth*, until lately a mere village, but recently become a favourite watering-place.

The Isle of Wight, which lies opposite to the south coast of Hampshire, is distinguished for the beauty and variety of its natural features. Several small rivers, the chief of which is the Medina, water the island, the greater portion of which is under cultivation. The winter climate of the Isle of Wight, especially along the southern coast, in the tract known as "the under-cliff," is distinguished for its mildness. The principal town is *Newport*, on the west bank of the Medina, nearly in the centre of the island. Near Newport are the ruins of Carisbrook Castle, in which Charles I. was for a time confined. *Cowes* and *Ryde*, both of them on the north side of the island, with *Ventnor* on its south-eastern coast-line, are the most considerable of its coast-towns, and the chief amongst the many favourite places of sea-side resort which it includes. *Yarmouth*, a decayed town, is on the N. coast of the island, towards its western extremity. Off the extreme western point of the island, and near the shores of Alum Bay, are the well-known chalk rocks of the Needles.

35. **BERKSHIRE** has an area of 451,040 acres, or 705 square miles. On the north, it is limited throughout by the winding channel of the Thames, which divides Berkshire from the counties of Oxford and Buckingham. The streams of the Emborne and the Blackwater form part of the county boundary on the side of Hampshire, to the southward. A little stream called the Cole (which joins the Thames, upon its south bank, at Lechlade) divides Berkshire, on the north-west, from Wiltshire: the remainder of the western border-line, and also the eastern limit, on the side of Surrey, are artificial.

The surface of Berkshire is exceedingly varied. The highest

grounds are found in a range of chalk downs which cross the western part of the county, from the bank of the Thames, a few miles above Reading, to the Wiltshire border—passing north of the towns of East Ilsley and Lambourne, and to the south of Wantage. The highest points of the range are found in Scutehamfly station (4 miles S.S.E. of Wantage), which is 853 feet, and White Horse Hill (only 3 miles from the Wiltshire border), 893 feet high. The entire range has a steep declivity northward, in which direction it overlooks the fertile Vale of White Horse, and descends by a more gradual slope to the southward, towards the valley of the Kennet.

A range of high ground, much less elevated than the above, runs near the southern bank of the Thames, within the extreme north-west of the county, from the neighbourhood of Oxford to beyond Faringdon. These hills are composed of oolitic strata. The eastern portion of the county, towards the Surrey border, is moderately elevated in parts.

There is, however, a great extent of low land within the county. The Vale of White Horse, in the north, has an eastward slope, towards the Thames, and opens out into the broad low-lying tract which adjoins that river to the south and east of Abingdon. Below Wallingford, the banks of the Thames are bordered on either hand by the high grounds of the chalk formation. The valley of the Kennet includes a large extent of low meadow land.

The chief rivers of Berkshire, besides the Thames, are the Kennet (with its affluents, the Lambourne, and the Emborne, or Auborne river), the Loddon, and the Ock. The Kennet is the most considerable of these, and has been rendered navigable, by means of artificial cuts, up to the town of Newbury. The Loddon rises in Hampshire, and, increased by the Blackwater (which flows along part of the county border), crosses that part of Berkshire which was formerly comprehended within Windsor Forest, finally joining the Thames about five miles below Reading. The Ock rises in the N.W. of the county, at the base of the chalk hills, and flows through the fertile Vale of White Horse, falling into the Thames at Abingdon. A small stream called the Pang flows, by a circuitous course (from the neighbourhood of East Ilsley, first south, and then east and north-east), into the Thames at Pangbourn, above Reading.

A considerable part of Berkshire—above a third part of the county—falls, geologically, within the area of the chalk. This comprehends all the middle belt of the western and broader portion of the county, including the hills that overlook from the south the Vale of White Horse. The soil throughout this tract is for the most part fertile, the valleys being more or less covered with an alluvium derived in part from the higher grounds of the chalk formation,

mixed with loam. The Vale of White Horse, together with the rising ground by which it is bordered on its northern side, belongs to the oolitic series; the soil of the vale exhibits an intermixture of clays with gravel and sandy loams, enriched in many parts by alluvial washings derived from the chalk hills on the south. The rest of the county falls within the basin of the London clay, beneath which the chalk passes, and is found by boring to any considerable depth. In the extreme east of the county, towards the border of Surrey, the clay is overlaid by the thin ferruginous deposit known as the Bagshot sands.

Berkshire is a thoroughly agricultural county. Arable husbandry predominates in the Vale of White Horse, the rich soil of which yields abundant crops of corn, and there are large tracts of fertile corn land within the valley of the Kennet. In other parts of the county, pastoral husbandry prevails over tillage. There are rich tracts of meadow land along the banks of the rivers and elsewhere, and a great amount of dairy-produce is derived thence. The county is nearly everywhere abundantly wooded. Windsor Forest, in the east, covered in former times a vast extent, reaching eastward into the adjoining county of Surrey, and spreading west up the entire valley of the Kennet as far as Hungerford. The latter tract, however, has long since been disforested, and large portions of the forest have been enclosed within the present century. The tract of the Bagshot sands, towards the border of Surrey, is poor in soil and has a heathy surface.

Berkshire is divided into 20 hundreds. Its towns are :—

	Pop.		Pop.		Pop.
READING .	24,965	EAST ILSLEY	750	WALLINGFORD	2,819
NEWBURY .	6,161	WANTAGE .	2,951	MAIDENHEAD	3,607
HUNGERFORD	3,072	FARINGDON.	3,676	WINDSOR .	9,827
LAMBOURNE	1,258	ABINGDON .	5,691	WOKINGHAM	2,272

Reading and Windsor are parliamentary boroughs, returning two members each: Abingdon and Wallingford, which are also parliamentary boroughs, return each one member. The county returns three members.

Reading, the capital of Berkshire, is situated on the banks of the Kennet, near its junction with the Thames: it has great trade in the agricultural produce of the surrounding country. Reading filled an important place during the earlier periods of English history, and was the frequent residence of royalty.

Windsor, in the eastern part of Berkshire, is distinguished for its fine castle, the principal residence of the English sovereigns; on

the opposite bank of the Thames, adjoining Windsor (and within the county of Buckingham), is Eton, already noticed. *Newbury*, on the Kennet, fifteen miles west by south of Reading, has considerable trade in malting, and a great inland traffic by the river and canals. Its connection with the events of the Civil War has been elsewhere referred to.* *Wantage*, in the western part of the county, was the birth-place of Alfred the Great.†

VII. SOUTH-WESTERN DIVISION.

36. **WILTSHIRE**, an inland county, has an area of 865,092 acres, or 1,352 square miles. It is of compact shape, though divided from the adjacent counties on either side by an irregular line. A small part of its western boundary coincides with the course of the river Frome (an affluent of the Bristol Avon). Its northern border is marked, for a short distance, by the Thames, and a small affluent of that river forms part of the frontier on the side of Berkshire. Farther to the southward, on the same side, the Kennet divides, for a distance of less than two miles, the counties of Wilts and Berks.

The surface of Wiltshire is very diversified. In a general sense, the county may be said to consist of high upland downs, furrowed in particular localities by depressed valleys which constitute the beds of rivers. The downs or hills generally present a steep escarpment on the side of these valleys, while in the other direction their aspect is rather that of a succession of undulating plains.

The eastern part of the county, with small exception, falls within the great chalk area. This exhibits in Wiltshire two well-marked tracts, of the character above indicated—one a northern, the other a southern tract. These are divided in the direction of east and west by the depressed valley in which Devizes is situated, and which includes the fertile vale of Pewsey. The upland tract which lies to the northward of this valley includes Marlborough Downs; that to the southward constitutes Salisbury Plain.‡ Inkpen Beacon, 1,011 feet, the highest chalk hill in England, is on the extreme eastern border of the county, near the point where the counties of Wilts, Hants, and Berks meet. No other eminence within

* Chap. xii. p. 245.

† Berkshire abounds in antiquities, alike of the Roman and Saxon eras, as well as of the earlier British period—as barrows, tumuli, entrenchments, ancient roads, camps, &c. The site of the battle of *Æscendun* is generally identified with *Ashdown*, on the southern side of the Vale of White Horse. See *ante*, p. 102.

‡ See *ante*, p. 34.

the county appears to equal this in height. Some points within the S.W. extremity of the county reach an altitude of 800 feet. From the western escarpment of the chalk (which coincides, in a general sense, with a line drawn diagonally in the direction of N.E. and S.W., and passing nearly by Swindon, Devizes, and Warminster) the remainder of the county on that side has a gradual slope westward, towards the valley of the Bristol Avon.

The generally elevated surface of Wiltshire is seen in the nature of its river-drainage. This consists for the most part of streams which have their origin within the county, and flow outwards. Portions of Wiltshire hence belong respectively to the basins of the Thames, the Salisbury Avon, and the Bristol or Lower Avon. One of the sources of the Thames (that bearing the names of Thames Head, and the reputed fountain of the river) rises just on the north-western border of the county, and flows eastwardly past Cricklade, receiving on its way the Swill brook, which joins its southern bank, and the Churn (from Cirencester) upon its northern side. The Kennet, one of the chief affluents of the Thames, rises within Wiltshire, and takes an eastwardly course across the chalk of Marlborough plain, passing into Berkshire.

The Salisbury Avon, with its affluents, drains a larger area of Wiltshire than any other stream, and may be regarded as the principal river of the county. It flows from the neighbourhood of Devizes eastward through the vale of Pewsey, and thence has a southwardly course, past Salisbury, into Hampshire. At Salisbury the Avon is joined on its right bank by the Wiley (which brings with it the waters of the Nadder), and, a short distance below, by the Bourne, which joins it on the left bank. Both the Wiley and the Nadder rise within the western portion of the county, the last-named of them flowing through the vale of Wardour.

The Lower or Bristol Avon rises within Gloucestershire, but shortly passes into Wiltshire, and after making a considerable circuit, in the course of which it passes Malmesbury, Chippenham, Melksham, and Bradford, leaves the county a short distance below the last-named town. It receives several small affluents within this portion of its course, but none that are of any considerable importance. A small district in the extreme south-west of Wiltshire belongs to the basin of the Dorsetshire Stour, which rises within the county.

None of the Wiltshire rivers have sufficient depth of water for the purposes of navigation until after they have passed beyond the limits of the county: but the canals by which the county is traversed supply the deficiency.

The large area of chalk deposit forms the prominent geological feature of Wiltshire. All the central and eastern parts of the county

fall within this area. The outcrop of the chalk is everywhere marked by chalk-marl and greensand, which skirt the central area of chalk upon the north and west, and also upon either side of the depression which forms the Vale of Pewsey.

Below the chalk downs, to the northward and westward, the remainder of the county in those directions belongs principally to the oolitic series, all the members of which are represented within Wiltshire. A narrow band of Wealden clay generally intervenes between the greensand and the upper division of the oolitic strata. These latter comprehend Kimmeridge clay, and Portland oolite or freestone, the latter of which is quarried in several places. The middle oolites, comprehending coral-rag and Oxford or clunch clay, with occasional deposits of Kelloway limestone, occupy a broader tract than either the upper or lower divisions of the oolitic series, extending in some parts of the county to eleven or twelve miles in breadth. In the north-west of Wiltshire (to the north of Swindon and Wootton Bassett, and west of Calne), the coral-rag and calcareous grit form low hills, averaging 400 feet above the level of the sea. The lower oolites occupy the extreme north-west of the county, and include cornbrash and forest marble, both of which are quarried (the former in the neighbourhood of Malmesbury, the latter between Melksham and Bath) for building purposes.

A small part of the county, in the south-east, embracing the valley of the Avon below Salisbury, is within the area of the plastic clays belonging to the Isle of Wight basin.

Wiltshire is an agricultural county. The great extent of its chalk downs, which remain for the most part in their primitive state, unenclosed, and untouched by the plough, serving only the purpose of sheep pastures, gives the characteristic attribute to its industry. Sheep have always formed a large portion of the wealth of the Wiltshire farmer, and such manufactures as the county possesses are in connection with wool. The larger part of Wiltshire is pastoral. Arable husbandry is extensively pursued in the valleys, and in lower grounds of the west and north, and the usual cereal crops are raised. Dairy-produce is abundant in North Wiltshire, and a large quantity of cheese is supplied thence to the metropolis and other markets. Pigs are reared in large numbers. The woollen cloth manufacture has been established from an early period in the western part of the county, at Bradford, Trowbridge, and elsewhere.

Wiltshire is divided into 28 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
SALISBURY .	11,833	LUDGERSHALL	580	HEYTESBURY	1,210
DOWNTON .	2,727	DEVIZES .	6,554	WARMINSTER	4,220
AMESBURY .	1,172	WILTON .	8,607	HINDON .	710

	Pop.		Pop.		Pop.
MERE.	1,156	EAST LAVINGTON	1,721	HIGHWORTH	4,026
WESTBURY	7,029	CORSHAM	3,172	WOOTTON-BAS-	
		CHIPPENHAM	1,603	SET	2,123
TROWBRIDGE	10,157	CALNE	2,544	SWINDON	4,876
BRADFORD	8,959	MALMESBURY	6,883	MARLBOROUGH	3,684
MELKSHAM	6,073	CRICKLADE	1,906	GREAT BEDWIN	2,193

The city of Salisbury, and the parliamentary boroughs of Devizes, Chippenham, Marlborough, and Cricklade, each return two members. Wilton, Westbury, Calne, and Malmesbury, return one member each. The county returns four members—two for each of its divisions (North and South).

Salisbury, on the Avon, the capital of Wiltshire, is chiefly interesting from its cathedral, a magnificent early English edifice of the 13th century, and the origin of which is coeval with that of the city itself.* The ruins of the old palace of Clarendon, now greatly decayed, about 3 miles east of Salisbury, mark the place where the early Norman kings of England occasionally held their Court. It was here that were enacted, in 1164, the famous "Constitutions of Clarendon."

Wilton, 3 miles W. by N. of Salisbury, on the right bank of the river Wiley, immediately above the junction of the Nadder, is a place of great antiquity, the occasional residence of the West Saxon kings, and for a time (during the 10th and early half of the succeeding century) the seat of a bishopric, afterwards removed to Sarum. The carpet manufacture which once rendered Wilton famous is still pursued on a limited scale. Both *Heytesbury* and *Warminster* are within the valley of the Wiley, towards its upper extremity. Warminster has extensive local trade, and retains some share in both the woollen and silk manufactures, the former of which was at one time pursued in this and neighbouring localities on a much larger scale than in the present day.

Devizes, an ancient town, lies nearly in the centre of the county, within the depression that divides the chalk downs in the direction of east and west, and on the line of the Kennet and Avon canal. Its place in the records of the Civil War has been noticed elsewhere.† The silk

* The bishop and chapter of Old Sarum removed thither, in consequence of a feud with the civil powers of that place. The people followed in the steps of their clergy, and a new city grew into being on the site to which their presence imparted sanctity. Old Sarum, long since deserted, is about two miles to the northward of Salisbury; though a mere ruin, it includes many interesting remains of a former period. Old Sarum marks the site of the Roman Sorbiodunum. See *ante*, p. 91.

† Chap. xii. p. 237.

manufacture is carried on here to a small extent: that of woollen goods is now extinct. The importance of Devizes is chiefly as a central market for agricultural produce. *Trowbridge*, *Bradford*, and *Melksham*, all situated to the westward of Devizes, with *Westbury* in the direction of S.W., share in the manufacture of woollens — chiefly broadcloths and kerseymeres — the two first-mentioned on a scale of considerable magnitude. Bradford, a place of Saxon origin, stands upon either bank of the Lower or Bristol Avon. Melksham is also on the Avon, six miles above Bradford. Trowbridge is beside the little stream of the Were, which joins the Avon on its left bank, a mile and a half above Bradford.

The towns of *Chippenham*, *Malmesbury*, *Calne*, and *Wootton-Basset*, are within the north-western portion of Wiltshire — the two first-named on the banks of the Bristol Avon. All these places shared largely in the former clothing-trade of this part of the county, now pursued only on a limited scale. Malmesbury is of very ancient date, a monastery having been founded there in the 7th century. *Swindon* has within recent years been rendered notable by its place near the line of the Great Western railway, immediately adjacent to which a new town has sprung into existence. *Marlborough* is situated amongst the chalk downs, on the left bank of the river Kennet, and 13 miles to the N.E. of Devizes.

No part of England surpasses Wiltshire in the number and variety of its antiquities, especially in works of the early British, Roman, and Saxon periods. This is in great measure owing to the fact of its extensive downs, which remain, with small exceptions, in their natural state, unenclosed, and untouched by the engineer. The most interesting of such remains are those of Stonehenge, on Salisbury Plain, and of Avebury, in the neighbourhood of Marlborough, both of which are Druidical structures, of uncertain purpose and design. Stonehenge is 7 miles N. by W. of Salisbury: Avebury lies between 5 and 6 miles to the W. of Marlborough and 8 miles N.E. of Devizes. Ancient barrows or tumuli, excavations, figures roughly marked out upon the sides of the chalk hills, and works of like description, are thickly strewn over Wiltshire and the similar tracts within the adjacent county of Berks.

37. DORSETSHIRE, a maritime county, of irregular shape, has an area of 632,025 acres, or 988 square miles. Its coast line, extending along the Channel, in the general direction of east and west, exhibits numerous indentations, the two most extensive of which are Poole Harbour and Weymouth Bay. The former of these, which has a very narrow entrance, is for the most part shallow: a deep water

channel, however, extends up to the town of Poole, situated on its northern shore. Brownsea Island, which is of considerable size, with a heathy surface, and only of trifling elevation, is within Poole Harbour, as also are several islets of smaller size. Between Poole Harbour and Weymouth Bay, the coast includes the smaller inlets of Studland, Swanage, and Durlstone Bays—all three on the east side of the Isle of Purbeck; with Kimmeridge and Warbarrow Bays, Lulworth Cove, and Ringstead Bay, farther to the westward. The tracts known as the Isle of Purbeck and the Isle of Portland—both of which are really peninsulas—are in this county.* The latter is joined to the mainland by the Chesil Bank, a narrow ridge, composed entirely of loose pebbles, upon a base of blue clay.

The inland border of Dorset is almost throughout marked by an artificial line. The river Yeo, or Ivel, however, flows along a few miles of the border line, on the side of Somerset, as also does the river Axe, farther to the west.

Dorsetshire has a varied surface. Two ranges of chalk hills, enclosing between them an extensive basin, traverse the county. These ranges lie widely apart from one another in the eastern and broader portion of the county, but become united in a single ridge towards its western extremity. The more northerly of the two enters the county, on the north-east, from Wiltshire, near the town of Shaftesbury, and, passing southward in the direction of Blandford, bends to the west and runs in that direction to the neighbourhood of Beaminster. From the last-named locality, the more southwardly range stretches south-east, and afterwards nearly due east, to its termination in the Isle of Purbeck.† Both ranges include numerous elevated downs, of the rounded form common to the chalk, and varying in height from three to upwards of eight hundred feet. The more northerly range, which is generally the higher of the two, has one point which exceeds nine hundred feet (Bulbarrow, 6 miles S. of Sturminster Newton, 927 feet high). The highest point in the county is Pillesdon Pen (4 miles W. of Beaminster), 934 feet high, which lies immediately west of the chalk, and belongs to the greensand formation. The hills about Beaminster constitute, with the exception of a few detached and outlying masses, the most westerly extension of the chalk in England. The highest point of the Isle of Portland is 458 feet above the sea. The chalk downs belonging to the more northerly of the two chains spread over a breadth of many miles. The north eastern part of Dorsetshire, with the adjacent part of

* See *ante*, p. 46.

† These two chalk ranges of Dorset are distinguished, with reference to that county, as the North and South Downs.

Wiltshire, forms Cranborne Chase, a tract now disforested, but formerly extensively covered with wood. The north-western portion of the county, to the northward of the chalk hills, includes the fertile vale of Blackmore, watered by the Stour, with various affluents of that river in the upper portion of its course.

The chief river of Dorsetshire is the Stour, which rises within the south-western corner of Wiltshire. It crosses Dorsetshire in a south-eastwardly course — passing, on the way, through an opening in the chalk range (some distance above the town of Blandford) — and joins the Salisbury Avon at the town of Christchurch, in Hampshire. The Stour is navigable up to the town of Sturminster Newton. It is joined on its right bank, within the northern part of Dorsetshire, by the Cale, a small stream which flows along part of the Dorset and Somerset border.

Among the less important streams of Dorsetshire are the From and the Piddle (or Trent), both of which enter the upper part of Poole Harbour, a short distance below the town of Wareham; with the Wey, the Bredy, the Brit, and the Char, all short streams, which flow southward into the English Channel. The rivers From and Piddle, with the middle portion of the Stour (below its passage through the chalk-hills above Blandford), drain the tract included between the two ranges of chalk downs, which comprehends the principal low lands of the county.

Geologically, as well as externally, chalk forms one of the most prominent features of Dorsetshire. The valley or basin included between the two chalk ranges above traced is occupied by the Plastic clay formation. Potters' clay occurs abundantly within this area, and is extensively worked for use in the Staffordshire potteries. Beneath the potters' clay lies a seam of friable and earthy brown coal, which burns with a weak flame, and emits a bituminous smell. A bed of pipe-clay skirts, for a considerable distance, the northern declivity of the more southwardly range of chalk downs.

The chalk ranges of Dorset are succeeded, on their outer edge — that is, towards Somersetshire in the case of the more northwardly range, and on the side of the Channel in the case of the southwardly chain — first, by the greensand, which forms a nearly continuous belt, and then by various members of the oolitic series. Along the southern side of the county, strata of Weald clay and iron-sand intervene, in some tracts, between the greensand and the oolitic formations. The most prominent member of the last-named group, within Dorsetshire, is the Portland oolite, belonging to the upper series of the oolitic deposits. This occupies the whole of the Isle of Portland, and a small portion of the Isle of Purbeck. The Portland oolite has been employed as building-stone during the last

two centuries and a half, having been largely used for the purpose within the metropolis and elsewhere. The blue slaty or greyish yellow clay, known as Kimmeridge clay (from the village of Kimmeridge, on the coast of this county, near which it is found), underlies the Portland stone of the Isle of Purbeck, to the westward of St. Alban's Head. Lias appears towards the western extremity of the county, below the inferior oolite. The town of Lyme Regis falls within the lias area, which has furnished hence many of the saurian fossils by which that formation is characterised.

Dorsetshire is altogether an agricultural county. Its open and unenclosed downs are used for sheep-pasturage, as also are many tracts within the south-eastern division of the county, where the soil is generally poor and gravelly. The quantity of arable land is much less than that devoted to pasture. The meadows within the vale of Blackmore are exceedingly rich. Both butter and cheese are characteristic products of the county, and are largely supplied—the former especially—to the London market. A fertile soil is found in many of the smaller valleys and river-bottoms, throughout the county, and the usual cereal crops are raised.

Dorsetshire has a complicated division into fifty-eight portions, 36 of which are termed hundreds, and 22 are known as “liberties.” These divisions are exclusive of its various boroughs, one of which, Poole, is regarded as a county in itself. These numerous smaller portions have been grouped, within modern times, into nine larger divisions. The towns of Dorsetshire are:—

	Pop.		Pop.		Pop.
DORCHESTER	6,823	CORFE CASTLE	1,966	SHAFTESBURY	8,987
WAREHAM .	6,977	Swanage .	2,139	CRANBORNE .	2,737
EVERSHOT .	606	POOLE .	9,745		
CERNE ABBAS	1,343	WIMBORNE		BEAMINSTER	2,832
Milton Abbas	915	MINSTER .	2,295	BRIDPORT .	7,672
BERE REGIS .	1,814	BLANDFORD		Charmouth .	664
		FORUM .	3,913	LYME REGIS .	2,413
MELCOMBE	11,383	STURMINSTER			
REGIS		NEWTON .	1,916	SHERBORNE .	3,878
WEYMOUTH		STALBRIDGE .	1,901		

The boroughs of Dorchester, Poole, and Weymouth (with Melcombe Regis) return two members each. The boroughs of Wareham, Shaftesbury, and Lyme Regis, return one member each. The county of Dorset returns three members.

Dorchester, the capital of the county, and a town of early origin, is seated on the south bank of the river Frome. Extensive remains of ancient works, both British and Roman, occur in the neighbour-

hood; among the most considerable of the former is the large earthen enclosure of Maiden Castle, about a mile and a half to the S.W. of the town. Within a shorter distance from the town, to the southward, is a Roman amphitheatre (now called Maumbury Ring), of vast dimensions; and, to the westward, the ancient work known as Poundbury Camp.

The adjoining towns of *Weymouth* and *Melcombe Regis*, situated on the shore of Weymouth Bay, 7 miles S. of Dorchester, are upon opposite banks of the little river Wey, which forms at its mouth an estuary of some magnitude, across the entrance of which is a handsome stone bridge. Weymouth is of ancient origin; Melcombe Regis (on the south side of the river) has grown up within modern times, and forms a frequented watering-place.

Wareham, an ancient borough at the mouth of the river Frome, which flows into the upper part of Poole Harbour, and *Poole*, upon the north side of the same inlet, nearer its mouth, both possess some coasting trade. The south-eastern corner of Dorsetshire (to the south of Poole Harbour) forms the Isle of Purbeck. Great part of the clay dug upon the northern side of the Isle of Purbeck is brought to Wareham, whence it is carried to Poole, and shipped for the Staffordshire potteries. *Swanage*, on the E. coast of Purbeck, is resorted to for the purpose of summer bathing.

Wimborne Minster, an ancient town on the Stour (at the point where it is joined by the little stream of the Wim, or Allen), is chiefly noteworthy for the fine collegiate church or minster which gives its distinguishing appellation, and portions of which were built soon after the Norman conquest. *Blandford Forum* (the latter epithet being used to distinguish it from other Blandfords in the county) is also of ancient date: it stands on the left bank of the Stour, in the midst of a rich district of pasture-land. *Sturminster Newton* is also on the Stour, higher up its course, and within the fertile vale of Blackmore.

Beaminster and *Bridport*, both in the western part of Dorsetshire, are within the valley of the Brit — the former near the source of that stream, the latter about two miles above its outlet in the Channel. Bridport has considerable manufactures of cordage, twine, shoe-thread, sail-cloth, and other hempen goods, and carries on some coasting and foreign trade, the latter consisting chiefly in the import of Baltic and Norwegian produce. The harbour formed by the mouth of the river admits vessels of 200 tons burthen. *Lyne Regis*, a seaport at the south-western extremity of the county, enjoys some coasting-trade, and is of resort as a summer watering-place. Its memorable defence by Blake, on behalf of the Parliament, in 1644, forms a striking episode in the annals of the Civil War.

Charmouth, about a mile and a half to the eastward of Lyme Regis (and situated, as its name implies, at the outlet of the river Char), is a summer watering-place.

38. SOMERSETSHIRE, a maritime county, has an area of 1,047,220 acres, or 1,636 square miles. It borders to the north-west upon the Bristol Channel, its coast-line upon which includes Bridgewater Bay, with several smaller indentations. Its inland frontier is marked, to the northward, by the lower portion of the course of the Bristol Avon, which divides the counties of Somerset and Gloucester. Elsewhere, the Frome (an affluent of the Avon), the Yeo or Ivel, the Axe, the Tone, and the Ex, mark, for short distances, portions of the county border. The high ground of the Blackdown Hills, to the southward of Taunton, forms part of the border between Somerset and Devon.

Few of the English counties include so great a variety of surface as Somerset. It contains extensive tracts of low ground, the place of which is marked on the map by the lower courses of the rivers that flow into Bridgewater Bay. Many of these low grounds were originally mere swamps, only rendered fit for habitation by artificial drainage. The low districts, however, are divided from one another by ranges of hill, and the seaward division of the county is backed towards the interior by high grounds, which in some parts reach a considerable elevation.

The southernmost extremity of the Cotswold Hills enters the north-eastern corner of Somersetshire, forming the hills that enclose, in that direction, the city of Bath. Lansdown, immediately above Bath (and within Gloucestershire) is 813 feet high. The tract which adjoins the south bank of the Avon exhibits numerous eminences, irregularly grouped, and divided by deep coombs or valleys. The most conspicuous of these eminences, Dundry Hill, 790 feet, is four miles S. by W. of Bristol. From the neighbourhood of Bath, a tract of high ground stretches through the eastern part of Somerset, in a direction inclining to the west of south, towards Yeovil, and thence in a westerly direction towards the town of Wellington and the upper part of the course of the river Tone. This extended range of ground makes the circuit of the county upon great part of its eastern and southern sides, and includes the sources of several of the smaller rivers that flow into the Bristol Channel within the coast-line of Somerset. Some of the longer of these streams, however, as the Yeo or Ivel, the Parret, and the Isle, have the upper portion of their courses within valleys that divide the high grounds, and break their general continuity. The

Blackdown Hills, which border the vale of Taunton to the southward, form part of this enclosing circuit of high land.

Within that portion of Somerset which makes nearer approach to the sea (and enclosed to the east and south by the circuit of elevated land above referred to) are the Mendip Hills, Polden Hill, and the Quantock Hills. The Mendip Hills occupy a tract of six or seven miles in breadth, bounded on either side by the valleys of the Axe and the Yeo rivers, and reach the height of 1,100 feet.* Polden Hill, a long and narrow ridge, lies in a direction parallel to the Mendips, and is divided from them by an extensive tract of fenny country, several miles across, and traversed by the river Brue. The highest point of the Polden range is only 360 feet. The valley of the river Parret lies between Polden Hill and the range of the Quantock Hills, which have a direction of N.W. and S.E., and reach in their highest point (Bagborough Station, 7 miles N.W. of Taunton) 1,270 feet. The extreme western part of the county is enclosed within the high moorland of Exmoor Forest, which extends into the adjoining county of Devon. The highest point of Exmoor, Dunkery Beacon (1,706 feet), is within Somersetshire, four miles S. of Porlock Bay.

The two most considerable rivers of Somerset are the Avon and the Parret. The former has only a small portion of its course within the county, and is chiefly a border stream. The Avon is navigable up to Bristol for ships of the largest class, at high water, and for vessels of small draught up to Bath, when it is joined by the Kennet and Avon canal, by means of which its navigation is connected with that of the Thames. The Avon receives on its left bank, above Bath, the river Frome, and at Keynsham, lower down its channel, the smaller stream of the Chew.

The Parret derives its waters from the chalk downs of Dorsetshire, and flows across Somerset in a north-westerly direction, falling into Bridgewater Bay. It receives on its course the streams of the Yeo or Ivel, and the Carey, on its right bank; the Isle and the Tone, on the left. Of these affluents, the Tone, which waters the fertile vale of Taunton, is the most considerable. The Parret is navigable for ships of 200 tons burden up to Bridgewater, and for small craft to a short distance above Langport. The navigation of the Tone reaches up to Taunton.

Among the smaller rivers of Somersetshire, intermediate between the valleys of the Avon and the Parret, are the Yeo,† the Axe, and the Brue, all flowing westward into the Bristol Channel.

* See chap. ii. p. 35.

† This is a second river of that name, distinct from the stream on which the town of Yeovil stands.

The whole of the rivers above named belong to the basin of the Bristol Channel, which includes the drainage of more than nine-tenths of the county. The high tract of Exmoor, in the extreme west, is drained by the river Ex (of Devonshire), and its affluent, the Barle.

The geology of Somersetshire is equally various as its superficial aspect. The low grounds and river-valleys in general, where not composed of fen or marsh-land, belong to the new red sandstone formation. This is overlaid, in the case of the numerous elevated grounds found within the eastern and south-eastern divisions of the county, by various strata of the lias and inferior oolite, both of which are extensively used for building purposes. The high ground that borders the valley of the Avon to the southward is chiefly composed of inferior oolite, which is quarried largely in Dundry Hill. The oolitic strata in the neighbourhood of Bath furnish the stone known as Bath stone.

The Mendip Hills completely break the continuity of the new red sandstone deposits, by which they are bordered both to the north and south. They consist of a central axis of old red sandstone, flanked on its opposite declivities by parallel bands of mountain-limestone; the latter formation in some localities over-arches and conceals the old red strata. Here, as in other parts of England, the mountain-limestone is associated with cavernous formations. The southern base of the Mendip range includes, in the immediate neighbourhood of Wells, the extensive cavern known as Wookey Hole, only inferior in point of extent to the famous cavern of the Peak. The Mendips are rich in minerals. Zinc and calamine are extensively derived thence; the lead mines, formerly worked, have been in most instances abandoned.

The chain of the Quantock Hills, with the rugged tract of Exmoor, in the extreme west of the county, belong to the mixture of slaty limestones and coarse gritstone known to geologists as the Devonian series, which is spread over a large area of the adjacent county of Devon. Slate is quarried in one part of this tract, in the neighbourhood of Wiveliscombe. The more westerly portion of the slate area, however, is divided from the Quantock range by an intervening tract of new red sandstone.

The eastern and north-eastern portions of this county include some outlying and detached portions of the Bristol and Somersetshire coal-field. The mountain-limestone of the Mendip Hills (which is prolonged eastward to the neighbourhood of Frome) marks the southern boundary of this coal-field. Several coal-pits are worked to the N.W. of Frome, and also nearer to Bristol.

Somerset is chiefly an agricultural county. Its soil has in general a high degree of fertility. The extensive vale of Taunton

is a richly cultivated tract, one of the most productive in England, and yields crops of the finest wheat. Within the low marsh lands, however, the ground is chiefly in pasture, and the husbandry of Somerset, on the whole, is rather pastoral than arable. Excellent butter and cheese are made, particularly, of the latter, the well-known Cheddar cheese.* Great numbers of geese are reared within the marshy tracts. Exmoor is a wild and thinly peopled district, within which the wild deer are still found in their native state.

Somersetshire is divided into 40 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
BATH . . .	52,528	CASTLE CARY	1,860	TAUNTON . .	14,176
KEYNSHAM .	2,318	SOMERTON .	2,140	WELLINGTON	3,926
FROME . . .	9,523	MILBORNE		MILVERTON .	2,146
Clevedon . .	1,905	PORT . . .	1,746	WIVELISCOMBE	2,861
Weston-super-		YEOVIL . .	5,985		
Mare . . .	4,034	ILCHESTER .	889	WATCHET . .	916
WELLS . . .	4,648	LANGPORT .	1,117	DUNSTER . .	1,184
AXBRIDGE .	939	CREWKERNE	3,303	MINEHEAD . .	1,542
BRUTON . . .	2,109	SOUTH		DULVERTON .	1,497
GLASTONBURY	3,125	PETHERTON	2,606		
SHEPTON		ILMINSTER	3,299	CHARD . . .	2,291
MALLET . .	3,885	BRIDGEWATER	11,361	WINCAUNTON	2,483

The cities of Bath and Wells, and the boroughs of Bridgewater and Taunton, each return two members. The borough of Frome returns one member. The county returns four members — two for each of its divisions (East and West).

Bath, the capital of the county, is finely situated on the north side of the Lower Avon river, eleven miles above Bristol. The ground upon which Bath stands rises in successive terraces above the river's banks, and displays to advantage its numerous beautiful buildings, erected with the white freestone quarried in the vicinity. Bath had its origin in the early British period, and was afterwards a Roman station.† It has, from the first, attracted attention by its medicinal springs. The town of *Frome*, situated on the river of that name, eleven miles to the southward of Bath, has considerable woollen manufactures.

Wells, an ancient city lying at the southern base of the Mendip Hills, contains a fine cathedral, and, together with Bath, forms a bishop's see. Wells has a very extensive cheese-market. *Glastonbury*,

* Cheddar is the name of a village lying at the south-western base of the Mendip Hills, a mile and a half S.E. of Axbridge.

† See *ante*, p. 90, 92.

one of the most ancient towns in Britain, is 5 miles S.W. of Wells. It stands on an eminence surrounded by marshy flats, near the right bank of the river Brue. The remains of its famous abbey (the reputed burial-place of the British king, Arthur) give the town its chief interest in the present day.

Taunton, on the river Tone, stands in the midst of the beautiful valley called by its name, and has considerable local traffic. *Bridgewater*, 6 miles above the mouth of the Parret, has some foreign as well as coasting trade. *Athelney*, the temporary retreat of Alfred,* is within this portion of the county, about nine miles N.E. of Taunton, and nearly as far distant from Bridgewater in the direction of S.E. In the same neighbourhood also—about five miles E. by S. of Bridgewater—is Sedgemoor, the scene of Monmouth's defeat and of the latest battle fought upon English ground (1685).† *Yeovil*, in the southern part of the county, situated near the left bank of the river Yeo, and adjacent to the Dorsetshire border, is distinguished for the making of gloves.

The coast of Somersetshire includes several places of resort by summer visitors. The two most frequented of these are *Clevedon* and *Weston-super-Mare*—the first-named 11 miles distant from Bristol, in the direction of W. by S., the latter at a distance of 19 miles to the S.W. of Bristol.

39. **DEVONSHIRE**, a maritime county—third in order of magnitude amongst the counties of England—has an area of 1,657,180 acres, or 2,589 square miles. It has an extensive coast-line, the longer portion of which, to the south-east and south, belongs to the English Channel; the remaining portion, on the north-west and north, is on the side of the Bristol Channel. The inland border of Devon, on the side of Somerset and Dorsetshire, coincides for short distances with the courses of the rivers Ex, Tone, Yart, and Axe. To the eastward of the Tone valley, the high ground of Blackdown forms, for several miles, the division between the counties of Devon and Somerset. On the south-west, the course of the river Tamar, from near its source to its outlet in Plymouth Sound, marks the general boundary between Devon and Cornwall; a strip of the former county however, about seven miles in length, and from two to three miles broad, passes to the westward of the Tamar, and projects within the general circuit of the Cornish frontier.

The Devonshire coast, alike on the side of the English and the Bristol Channels, exhibits great variety of feature. Bold and pro-

* See *ante*, p. 103.

† See Macaulay: *Hist. of England*, chap. v.

minent headlands separate from one another the numerous indentations, several of which form bays of considerable magnitude. Many portions of the coast are lined by high cliffs. This is especially the case from the Dorsetshire border westward to the mouths of the Ex and the Teign, and again from Start Point (at the S.E. extremity of the county) west to the entrance of Plymouth Sound. The principal inlets upon this side are — the estuary of the Ex river, Babicombe Bay, Tor Bay, Dartmouth Harbour, Start Bay, the mouth of the Kingsbridge river, Bigbury Bay, and Plymouth Sound. The most noteworthy headlands are Hope's Nose (the extremity of the rocky tongue of land which divides Babicombe and Tor Bays), Berry Head, Start Point, Prawle Point, Bolt Head, Bolt Tail, and Stoke Point. The high promontories of Berry Head and Start Point are the most conspicuous of the number.

The coast of North Devon is for the most part steep and rocky, the only exceptions to this character being found within the recess of Morte Bay (between Morte Point and Baggy Point), and within a part of the larger inlet of Barnstaple, or Bideford, Bay. Bull Point, Morte Point, Baggy Point, and Hartland Point, are the most conspicuous headlands upon this side of the county. From Bull Point (a few miles west of Ilfracombe) east to the Somersetshire border, the coast is varied and picturesque in the extreme, exhibiting, between its elevated cliffs, numerous small and sheltered recesses, through several of which the streams that have wound through the adjacent coombes discharge their waters into the sea.

Lundy Island, in the Bristol Channel, between ten and eleven miles to the north-westward of Hartland Point, belongs to Devon. It is a mass of granite, above two miles in length, and rising in its highest point (towards the north) to 200 feet above the sea. It contains abundance of rabbits and puffins, the destruction of which (the former for their skins, and the latter for the sake of their feathers) is the chief occupation of its few inhabitants. The Eddystone Rock is situated 9 miles S. of the entrance of Plymouth Sound.

The natural features of Devonshire are strikingly bold and varied. Its most central mass of high ground, Dartmoor, attains a greater elevation than any other eminence in England to the south of the 54th parallel. Dartmoor, with its connected high grounds, fills all the southern interior of the county. In the north is the high tract of Exmoor, and towards the eastern side of the county are Blackdown and its adjoining heights. The high grounds in the east and north of Devonshire are divided from Dartmoor by a plain of considerable breadth, and of moderate elevation. The line of railway connecting Exeter with Barnstaple runs through this plain, which occupies a large area of the midland division of the county. Along

the south-eastern and southern seaboard of Devon, an undulating tract of country borders immediately on the sea, and stretches from eight to twelve miles into the interior, the central mass of Dartmoor nowhere coming within a less distance of the coast.

Dartmoor forms a kind of plateau or table-land, composed of granite. Its surface exhibits a naked and undulating plain, with a boggy soil, and at frequent intervals irregularly dotted with huge masses of granite rock, known as *tors*. It extends about 22 miles in the direction of north and south, by 14 in that of east and west. Within this extensive area, there are few traces of either vegetable or animal life. The higher points of Dartmoor are chiefly found towards the north and north-west.* The slope of Dartmoor is rapid upon all sides, and most so towards the south.

The tract of country lying to the north-eastward of Dartmoor, towards the estuary of the Ex, includes the range of the Haldon Hills, the highest points of which exceed 800 feet.

The highest point of Exmoor, Dunkery Beacon, is within Somersetshire. Towards the western part of this region the high ground becomes narrowed to a single ridge, which terminates in Morte Point. Some of the points in this range reach 1,000 feet.

The range of Blackdown, on the border of Devon and Somerset, and the connected high grounds to the southward, spread over that part of the county which is to the eastward of the Ex, and impart a highly diversified surface to the tract of country which includes the sources of the Otter, the Sid, and adjacent streams.

The *rivers* of Devonshire may be arranged according as they flow, to the south or east, into the English Channel; or north and north-west, into the Bristol Channel. Of the former, which drain by much the larger portion of the county, the principal are—the Axe, Sid, Otter, Ex, Teign, Dart, Avon, Erme, Yealm, Plym, Tavy, and Tamar. Of those flowing into the Bristol Channel the chief are the Tawe and the Torridge, with their affluents. The Ex and the Tamar are the most considerable of the Devonshire rivers.

The Ex rises within Somersetshire, within the high tract of Exmoor, and is joined by the stream of the Barle in that portion of its course which is on the border-line between Somerset and Devon. Of the numerous affluents of the Ex within Devon, the chief are the Creedy (with its tributary, the Yew), on its right bank, the Batham, the Loman, the Culm, and the Clist, on the left. The last five miles of its course form an extensive estuary. Its navigation does not extend above Exeter.

The rivers Otter, Sid, and Axe, water that part of the county

* See *ante*, p. 27.

which is eastward of the Ex valley. The Otter rises on the southern slope of Blackdown, and passes Honiton on its way to the sea. The Axe, which rises in Dorsetshire, receives (below the town of Axminster) the tributary streams of the Yart and the Coly.

The Tamar has its source close to the border-line of Cornwall and Devon, immediately within the former county. The last 18 miles of its course form a tidal estuary, which widens southward to its junction with Plymouth Sound. The Tamar is joined, on its Devonshire side, by the Deer, the Claw, the Carey, the Lidl, and the Tavy, the last of which is a considerable stream. The Tavy rises in the highest region of Dartmoor, and passes the town of Tavistock. The last three miles of its course, immediately above its junction with the Tamar, form a tidal estuary. The Teign and the Dart are the two most considerable of the rivers that drain the eastern slope of Dartmoor. The Teign is navigable up to Newton Bushel (5 miles above the sea): the Dart up to Totness, about 11 miles above its mouth.

The Torridge, one of the two principal rivers of North Devon, has its source within the north-western corner of the county, not far from the head of the Tamar, whence it flows by a circuitous course into Bideford or Barnstaple Bay. Its principal affluent, the Okement river, rises on the highest portions of Dartmoor, in two small streams, distinguished as the East and West Okement. The Tawe rises upon Dartmoor, and is joined on its way to the sea by the streams of the Little Dart and the Mole, the latter of which is joined by the Bray. The Mole, and its affluent the Bray, both come from the southern slopes of Exmoor. In the last seven or eight miles of its course, below Barnstaple, the Tawe forms a considerable estuary. This becomes united, two miles above the sea, to the smaller estuary of the Torridge. The Tawe is navigable up to Barnstaple: the Torridge up to the town of Bideford.

The Tavy, the Dart, the Teign, the Tawe, and the Okement, all rise within a short distance of one another, within that portion of Dartmoor which includes Yes Tor, Amicombe Hill, and other elevated summits.

The *geology* of Devonshire exhibits in the extreme east of the county, towards the Dorset border, some detached and outlying masses of chalk, the latest appearances of that wide-spread formation towards the west. The chalk appears in section upon the coast, in the cliffs upon the east side of the valley of the Axe, and also to the westward of that river nearly as far as Sidmouth. The greensand, which immediately underlies the chalk, and throughout accompanies it, occupies a larger area of Devon, still however confined to its eastwardly portion. The Blackdown range, and the high grounds that divide the valleys of the Otter, Sid, Axe, and their smaller tributaries, with a part of those that lie between the valleys of the

Otter and the Culm, consist chiefly of greensand, which here rests immediately upon strata of lias towards the east and north, and of new red sandstone on the west. The hills belonging to the greensand formation of Devon exhibit for the most part a heathy surface, often flat-topped, and of generally rounded aspect. The Haldon Hills, west of the lower Ex valley, are topped by greensand. With this exception, the greensand of Devon nowhere reaches so far west as the course of the Ex river.

Of rocks belonging to the secondary period, the red marl or new red sandstone occupies, next to greensand, the most important place in the geology of Devon. This formation appears upon the western side of the Axe valley, and includes the area drained by the little stream of the Coly, which joins the Axe. It extends along the coast from the cliffs about Sidmouth to those of Babicombe Bay (including the estuaries of the Ex and the Teign), and stretches inland over an extensive tract of East Devon, within which are comprehended the valleys of the Sid and the Otter, with a part of the valley of the lower Ex. To the north of Exeter, the new red sandstone crosses the bed of the Ex, and extends west along the valley of the Creedy river, and its affluent the Yew, as far as the course of the Tawe. The coast upon either side of Torquay is formed, in part, by new red sandstone, divided by limestone of the Devonian series.

The area above adverted to comprehends less than a third part of Devonshire. All the rest of the county, with the exception of Dartmoor, which is composed of granite, consists of older strata that belong to the transition period, and the exact place of which in the geological series is yet undetermined. These transition rocks are composed chiefly of argillaceous and slaty limestones and sandstones, in the latter of which quartz and clay are found mixed in various proportions.* The transition-limestone of Devon is quarried in many localities for building stone, and the slaty rocks are also worked for roofing-slates. In many places, the rocks of this series furnish a beautiful veined marble.

Veins of tin, copper, lead, and manganese, occur extensively within the transition series of Devon, chiefly within the tract lying to the west of Dartmoor, about Tavistock, and thence to the banks of the Tamar, which is an important mining district. A few lead and copper mines are worked in North Devon. Silver is found along with the lead. A peculiar description of lignite, or imperfectly-formed coal (known as the Bovey coal), is found within the transition area on the east side of Dartmoor, near the village of Bovey

* These rocks were comprehended under the term *greywacke* in the language of the earlier geologists.

Tracey, within the valley of the lower Teign (between 3 and 4 miles W.S.W. of Chudleigh).^{*} Potters' clay and pipe-clay are found in the same neighbourhood: the former supplies the potteries of Bovey Heath. The granite of Dartmoor is extensively quarried, and has furnished the material of which numerous public works, in the metropolis and elsewhere, have been constructed. Mica and chlorite schist appear in the extreme southern part of the Devonshire coast, from Start Point westward (across the mouth of the estuary that leads up to Kingsbridge) to Bolt Tail.

Devonshire is a mining county, and possesses, besides, in the numerous seaport towns which line its coast, a large amount of commercial industry. Pastoral husbandry forms the prominent feature of its agriculture, the extent of land in grass being very much greater than that under the plough. The warm and somewhat moist climate by which the lower grounds of Devonshire in general, and especially those along the southern coast, are characterised, render dairy-farming an ordinary and a profitable pursuit. The excellent qualities of the Devonshire cream and butter are well known. Apple-orchards are abundant in many parts of the county, and great quantities of cider (an article of ordinary consumption with the peasantry of Devon) are made.

Devonshire is divided into 33 hundreds. Its towns are: —

	Pop.		Pop.		Pop.
EXETER	33,737	MORETON-		TAVISTOCK	8,804
TOPSHAM	2,717	HAMPSTEAD	1,858	Beer Alston	
EXMOUTH	5,123	CHUDLEIGH	2,401	HOLSWORTHY	1,833
TIVERTON	11,144	NEWTON	3,147		
BAMPTON	2,102	TEIGNMOUTH	5,013	BARNSTAPLE	10,738
COLLOMPTON	2,765	Dawlish	2,671	SOUTH	
CULMSTOCK	1,224			MOLTON	3,830
CREDITON	3,934	TORQUAY	7,903	CHULMLEIGH	1,711
		BRIXHAM	5,936	BIDEFORD	5,775
HONITON	3,301	ASHBURTON	3,062	TORRINGTON	3,308
OTTERY ST.		TOTNESS	3,993	HATHER-	
MARY	2,534	DARTMOUTH	4,443	LEIGH	1,710
Budleigh-		KINGSBRIDGE	1,679	OAKHAMPTON	2,194
Salterton		SOUTH BRENT	1,203		
SIDMOUTH	2,516	MODBURY	1,858	ILFRACOMBE	2,919
AXMINSTER	2,769	PLYMPTON	833	COMBE	
Axmouth	680	PLYMOUTH	62,823	MARTIN	1,441
COLYTON	2,504	DEVONPORT	50,504	Linton	1,059
CHAGFORD	1,557				

* The Bovey coal exhibits every gradation from a perfect ligneous texture to a substance approaching the character of true coal. It is used as fuel in the adjacent potteries, but burns imperfectly, and emits a fetid odour, which renders it unfit for domestic purposes.

Exeter is a city. Ashburton, Barnstaple, Dartmouth, Devonport, Honiton, Plymouth, Tavistock, Tiverton, and Totness, are parliamentary boroughs. Ashburton and Dartmouth each return one member. The other places here named return two members each. The county of Devon returns four members — two for each of its divisions (North and South).

Exeter, the capital of the county, and a city of early British origin, is situated on the east bank of the river Ex, seven miles above its mouth. It possesses a magnificent cathedral: some woollen goods are woven in the neighbourhood, but the trade in these is less now than formerly. *Topsham*, four miles lower down the river, has some trade, and also ship-building. *Exmouth*, at the entrance of the Ex into the Channel, and *Sidmouth* (at the mouth of the little river Sid, farther to the eastward), are resorted to as watering-places.

Arminster (on the east bank of the Axe) formerly had a considerable manufacture of carpets, but this is now given up. *Honiton*, on the Otter, is celebrated for its fine lace. *Tiverton*, on the Ex, twelve miles north of Exeter, has also considerable lace manufacture, and extensive local trade.

Plymouth (242 miles distant from London by railway and 190 in a direct line) is one of the chief naval arsenals of England. It is situated in the south-western extremity of Devonshire, beside the outlet of the river Plym, which falls into the eastern side of Plymouth Sound. The Tamar enters the western side of the same estuary, and Plymouth (with the adjoining towns of Stonehouse and Devonport) occupies the ground included between the two streams. Plymouth has numerous government establishments for the supply of military and naval stores, and the dockyard at Devonport is one of the finest in the kingdom: both places are strongly fortified. At the entrance of the Sound is a magnificent breakwater, nearly a mile in length. Plymouth has considerable foreign and coasting trade.

On the south-east coast of Devonshire, between the mouth of the Ex and Plymouth Sound, are several small seaport and fishing towns, of much resort as watering-places, on account of the extreme mildness and salubrity of the climate; among these are *Dawlish*, *Teignmouth* (on the river Teign), *Torquay* (on the north side of Tor Bay), and *Dartmouth* (on the river Dart), the last of which possesses some coasting trade. *Brixham*, which adjoins the southern shore of Tor Bay, flourishes by its extensive fisheries, and is historically memorable as the landing-place of the Prince of Orange in 1688.

Barnstaple, a town of early Saxon origin (on the north-west side of the county, eight miles above the mouth of the river Tawe), has

some manufacture of lace and pottery, with considerable general trade, and ship-building is carried on. *Bideford*, on the river Torridge, 3 miles above its mouth (and 8 miles to the S.W. of Barnstaple), has also some shipping trade. *Ilfracombe*, on the shore of the Bristol Channel, nine miles north of Barnstaple, has some share in the herring-fishery, but is chiefly noteworthy as a summer watering-place. Several other localities on the picturesque coast of North Devon are of like resort — amongst them, the adjoining villages of Lynton and Lynmouth, at the outlet of the little streams of the East and West Lynn (about 13 miles E. of Ilfracombe); and Clovelly, on the S. shore of Barnstaple Bay. *South Molton*, on the river Mole (an affluent of the Tawe), has some lace and woollen trade.

40. CORNWALL, a maritime county at the south-western extremity of Britain, has an area of 873,600 acres, or 1,365 square miles. It is a peninsula, bordered on the west by the open ocean, on the south and south-east by the opening portion of the English Channel. To the south-west, the county divides into two smaller peninsulas, which terminate respectively in the Lizard and the Land's End. On the north-east, Cornwall adjoins Devon, the boundary between the two counties being marked by the course of the river Tamar.

The coast of Cornwall is very extensive, and exceedingly varied in aspect. It is generally high and rocky, with numerous advancing headlands. These headlands divide from one another the many bays that belong to the Cornish coast, and within portions of which a shelving and sandy beach is in most cases found. In general, the southern coast-line (from the Land's End to Plymouth Sound) is characterised by bolder promontories and deeper bays than belong to the opposite side of the county. The most noteworthy of the Cornish headlands are — on the western side, Tintagell Head, Pentire Point, Trevoze Head, Towan Head, St. Agnes' Head, Cape Cornwall, and the Land's End — on the southern and south-eastern coast-line, the Land's End, Cuddan Point, the Lizard, Black Head, Rosemullion Head, Pendennis Point, Zone (or St. Ann's) Point, Deadman or Dodman Point, Black Head, Greber Head, Rame Head, and Penlee Point, the last-mentioned at the entrance of Plymouth Sound.

The most considerable bays are — on the west, Bude Bay, Port Isaac Bay, Padstow Harbour, Ligger or Perran Bay, and St. Ives Bay: — on the south and south-east, Mounts Bay, the Helford estuary, Falmouth Bay, St. Austell Bay, St. Blazey Bay, Looe Bay, and Whitesand Bay. Mounts Bay derives its name from St. Michael's Mount, a lofty rock (250 feet high) which becomes insulated at high

water, but is connected with the mainland by a causeway over the intervening sands.*

The surface of Cornwall is generally high and irregular. A succession of high moorlands, composed chiefly of granite, stretch through the interior of the county, in the direction of its length, spreading over a large portion of its midland area.† These attain their greatest elevation in the summit of Brown Willy, at the source of the river Fowey (4 miles S.E. of Camelford), 1,364 feet. Many other points exceed a thousand feet: among them are Rough Tor, near Camelford, 1,296 feet; Caradon Hill, N. of Liskeard, 1,208 feet; Kit Hill, on Hingston Down, near Callington (not far from the east border of the county), 1,067 feet; Cadon Barrow, near Tintagell, 1,011 feet; and Hensbarrow, N.W. of St. Austell, 1,027 feet. The elevations become less as the range advances to the south-westward: Carnmarth, S.E. of Redruth, is 849 feet; Carnbrea, S.W. of the same town, 640 feet; St Agnes' Beacon (near the west coast), 621 feet; Pertinney, near the Land's End, 689 feet.

The central high grounds lie in general nearer the western coast-line than the opposite shore. The country which, on either side, intervenes between them and the sea, though much less elevated, is undulating and diversified in surface, and includes many sheltered and watered valleys.

The chief rivers of Cornwall are the Tamar, with its affluents; the Seaton, the Looe, the Fowey, the Fal, and the Alan or Camel. All but the last-named flow towards the southward coast-line, that is, into the English Channel. The Camel, the mouth of which forms Padstow Harbour, is the only considerable stream that belongs to the western side of the county. The Tamar is joined, on the side of Cornwall, by the Attery (to the northward of Launceston), the Inny, and the Lynher or St. Germans river.

The Cornish rivers are chiefly characterised by the extensive estuaries in which they terminate: these form, in the cases of the Tamar, the Fal, and the Alan, deep and capacious harbours, capable of receiving ships of large burthen. The Helford river, on the S.E. coast, below Falmouth Bay, and the Heyl, which flows into St. Ives Bay, on the west coast, though small and unimportant streams, enter the sea through tidal estuaries which are equal to half of their total lengths.

* St. Michael's Mount is connected with several important passages of English history. The strong castle erected upon it at an early period was held by the Lancastrian Earl of Oxford against the besieging force of the Yorkists for some months, during the Wars of the Roses. In the Civil War, it was one of the places that remained longest in the hands of the Royalists.

† See chap. ii. pp. 27, 28.

The geological structure of Cornwall exhibits, almost throughout, various slaty limestones of the transition series (the greywacke of geologists), resting upon granite. The former rocks, locally known as *killas*, comprehend some of the oldest members of the sedimentary series, and are amongst the lowest in order of position. The greywacke occupies in many parts the entire breadth of the county, and forms its coast-line nearly throughout — excepting in the extreme projections that terminate in the Land's End and the Lizard. The granite shows itself in extensive portions of the central high grounds, where it has forced itself through the superincumbent sedimentary strata. The peninsula that terminates in the Land's End is composed chiefly of granite: that which ends in the formation of the Lizard consists principally of trap, at the southern extremity of which, immediately fronting the sea, are cliffs of serpentine. The granite cliffs of the Land's End are not more than 50 or 60 feet in height. The *killas* of Cornwall is traversed by numerous porphyritic veins or dykes, known to the miners as *elvan*. These have in general a direction of north-east and south-west: they vary in thickness from a few feet to upwards of fifty fathoms, and are most frequent and continuous towards the south-western extremity of the county.

The metallic veins by which the Cornish strata are traversed form the most important condition of its geology. These veins consist, in various localities, of copper, tin, lead, and silver, together with cobalt, antimony, arsenic, and other semi-metalliferous substances. Copper and tin are the most important of the Cornish ores, and have been worked (especially the latter) for a lengthened period.* It is seldom that either ore is found at less than 80 or 100 feet below the surface. The chief mining district is in the south-west, from St. Agnes, by Redruth, to the neighbourhood of Helstone and Marazion. Lead is more extensively worked in the eastern division of the county, towards the Devonshire border: the lead ore is there worked, in some instances, at a depth of 1,500 feet below the surface. Veins of copper and tin penetrate the granite, as well as the clay-slate of the greywacke rocks: those of lead, silver, cobalt, antimony, are found only within the latter. The granite of Cornwall is liable to decomposition under atmospheric and aqueous influences: the agency of this, during a lengthened period, has produced the beds of *kaolin*, or porcelain clay, which are found extensively on the eastern side of the county, within the tract lying between Bodmin and Grampound. The kaolin is extensively exported to the potteries of

* See *ante*, pp. 69 and 201.

Staffordshire and Worcestershire.* Roofing-slate is quarried in the neighbourhood of Tintagell Head.

Mining forms the distinctive feature of Cornish industry. The high and exposed moorlands of the interior, in general thinly covered with soil, are for the most part barren. It is only in the more sheltered parts of the county, towards the coast, and within the river-valleys, that agriculture is pursued. Both the soil and climate are peculiarly favourable to the growth of potatoes, of which abundant crops are raised. Large numbers of the population round the Cornish coast depend chiefly upon the fisheries for subsistence.

Cornwall is divided into 9 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
BODMIN .	4,466	LISKEARD .	4,689	FALMOUTH .	5,706
WADE-BRIDGE	777	LOSTWITHIEL	1,053		
PADSTOW .	2,224	FOWEY .	1,606	HELSTONE .	3,841
Port Isaac .		TYWARDREATH	3,287	MARAZION .	1,379
CAMELFORD.	705	ST. BLAZEY	3,570	PENZANCE .	9,414
STRATTON .	1,696	ST. AUSTELL	3,565		
LAUNCESTON	2,773	MEVAGISSEY	2,022	ST. IVES .	7,019
CALLINGTON.	2,146	GRAMPOUND	588	CAMBORNE .	6,547
SALTASH .	1,621	TREGONY .	846	REDRUTH .	7,095
ST. GERMANS	2,967	TRURO .	11,336	ST. AGNES .	6,674
EAST LOOE .	970	ST. MAWES.	941	ST. COLUMB	
WEST LOOE	746	PENRHYN .	3,959	MAJOR .	2,930

Bodmin, Falmouth, Helstone, Launceston, Liskeard, St. Ives, and Truro, are parliamentary boroughs. Bodmin, Truro, and Falmouth (in which Penrhyn is included) each return two members: the others return one member each. The county returns four members—two for each of its divisions (East and West).

Bodmin, the present capital of the county, is an ancient town situated on high ground in the central part of Cornwall, about a mile distant from the left bank of the river Camel. In most respects, however, Bodmin is a place of less importance now than at a former period. At its mouth the Camel forms the estuary of Padstow Haven, on the west side of which is the town of *Padstow*, which has some coasting trade. *Wade-Bridge* is on the left bank of the Camel, at the head of its estuary. *Camelford* is on the same river, considerably higher up—only a few miles below its source. The rocky headland

* It is to the agency of decomposition that the origin of such granitic formations as the Cheesewring (near Liskeard), and the logans, or rocking-stones, found in several parts of the county, is to be attributed. These were long erroneously regarded as Druidical monuments.

of Tintagell, with the ruins of its ancient castle, the reputed birth-place of Arthur, is 5 miles N.W. of Camelford.

St. Austell, ten miles south of Bodmin, is on the east side of the county, not far from the shore of the extensive bay to which its name is given. *St. Austell* has valuable tin mines in its neighbourhood, and kaolin of fine quality is dug in the vicinity. *Liskeard*, an inland town, situated 12 miles E. by S. of Bodmin, has considerable local trade.

Truro, at the head of an estuary on the south-east coast of Cornwall, is the capital of the mining district, and exports large quantities of tin and copper ore; it has factories for converting the tin into bars and ingots, with foundries and other establishments connected with the mines. *Falmouth* (on the west side of the estuary of Falmouth Bay) carries on considerable foreign and coasting trade, and is a station for foreign packets. Pendennis Castle, a strong fortress, of much note during the Civil War, when it formed one of the last strongholds of the Royalists, is on the west side of the entrance of Falmouth Harbour: opposite to it, on the eastern side of the harbour, is *St. Mawes Castle*.

Penzance, on the north-west side of Mounts Bay, has considerable trade, chiefly in the export of the mineral produce of the county. It is the most westerly town in England, being only 9 miles distant from the Land's End. At *Penzance* and numerous other ports on the coast of Cornwall the pilchard fishery is largely pursued. The town of *Marazion* is between two and three miles E. of *Penzance*, and has *St. Michael's Mount* in its immediate neighbourhood.

The Scilly Islands, a numerous group of islets and rocks at the entrance of the Channel, belong to Cornwall. They are situated about thirty miles to the south-westward of the Land's End, and comprise together an area of between six and seven square miles, or 4,000 acres. The population of the group, in 1851, amounted to 2,620. Only six of the number are inhabited. These are—*St. Mary*, *Trescow*, *St. Martin*, *St. Agnes*, *Bryher*, and *Samson*. The largest of the number is *St. Mary*, which is between nine and ten miles in circumference, and has an area of 1,527 acres. *Trescow*, the next in size, includes 696 acres; *St. Martin*, 514 acres; *St. Agnes*, 312 acres; *Bryher*, 268 acres; *Samson*, 82 acres. The smaller members of the group are mere islets.

The Scilly Islands are composed entirely of granite, and are manifestly a prolongation of the granite chain of Cornwall. The granite decomposes rapidly, and constant change is wrought by the combined action of the sea and air in the outward aspect of the islands, which were probably more extensive in former times than at the present day. The climate of the Scilly Islands is remarkably

equable as to temperature, but liable to dense fogs, with frequent and violent storms. The soil, which in some parts is tolerably fertile, furnishes tolerable crops of potatoes and corn — chiefly barley, though wheat is also grown. The inhabitants are principally engaged in agriculture, to which employment are added kelp-making, fishing, and pilotage. *Hugh Town*, on the western side of the island of St. Mary, is the capital of the group. There are villages on some of the smaller islands.

The Scilly Islands have been elsewhere referred to,* in connection with the trade in tin which the Phœnicians carried on before the Christian era. But the epithet of *Cassiterides*, or “tin-producing” islands, must be referred principally (if not altogether) to the shores of the adjacent mainland. There are but few traces of tin-workings in the islands — none sufficient to countenance the idea that any considerable quantity of tin was ever derived thence. Their only natural produce in the present day is a short thin grass, with dwarf furze, fern, and moss.

During the Civil War, the Scilly Islands were long successfully held for the King, but a squadron under Blake and Ayscue reduced them in 1651.

WALES.

I. NORTH WALES.

1. **ANGLESEY**, an insular county, has an area of 193,453 acres, or 302 square miles. Within this area is included the island of Holyhead, which is adjacent to Anglesey on the west, together with several smaller islets and rocks. Anglesey is divided from the mainland by the Menai Strait, which extends, in the direction of N.E. and S.W., for a length of 12 miles, with a breadth which averages from a third of a mile to half a mile, but is diminished in one place to little more than 500 feet.† The channel which divides Holyhead Island from

* Chap. iii. p. 69.

† It is here, at the narrowest portion of the strait, about 2 miles S.W. of Bangor, that the famous suspension bridge constructed by Telford is carried across the channel, at a height of 100 feet above the water-way. The Britannia tubular bridge, through which the line of the Chester and Holyhead railway passes, crosses the strait about a mile farther westward, where the width of the channel is above 900 feet, the central tower on which the bridge is supported being based upon a rock (formerly covered at high water) which occurs in the middle of the strait. There is some reason for supposing the width of the Menai (and, with that, its depth also) to be greater now than at a former period. Lines of stones, which appear to have once marked the

Anglesey is shallow, and at low tide consists principally of sand. The northern and north-western shores of Anglesey are for the most part rocky: the western and south-western coasts, and also the eastern side of the island, along the Menai Strait, are generally low and sandy. The most conspicuous headlands are Trwyn-du Point, the N.E. extremity of the island; Linas Point, about the middle of the northern coast; and Carnels Point, at its north-western extremity. Red Wharf Bay, on the north-east; Holyhead Bay (formed by the opening between Holyhead Island and Anglesey), on the west; and Maldraeth Bay, on the south; are its most considerable inlets. To the north-westward of Red Wharf Bay is Dulas Bay, and between the two, the smaller opening of Moelfre Bay.

The surface of Anglesey is for the most part flat. The only considerable elevations are towards the northern coast. The Parys Mountain, in the neighbourhood of Amlwch, has only the moderate elevation of 473 feet above the sea. The highest point of Holyhead Island reaches 709 feet. Many of the low grounds of Anglesey contain extensive beds of peat, in which, as in the bogs of Ireland, trunks of trees are often found. The island is watered by numerous small streams.

The geology of Anglesey exhibits considerable variety. The greater part of the island is composed of primary and metamorphic schists (Cambrian or Lower Silurian), which alternate with secondary strata belonging to the Permian and carboniferous periods. A small coal-field occurs in the eastern half of the island, stretching from Maldraeth Bay (on the S. coast) for a distance of 9 miles inland. The coal measures are overlaid by red sandstone, conglomerate, and marl; millstone-grit and carboniferous limestone, based upon metamorphic schists, rise from beneath the beds of coal. Both copper and lead mines have been worked in the island, and copper is still worked. The two principal mines are situated on the Parys Mountain, two

limit between sea and land, are found below the present high-water mark. The present depth of the strait varies between one and eight fathoms. It would appear, however, from the language of Tacitus (*Annals*, xiv.; and *Agricola*, xviii.) that the condition of the channel in this latter respect has not undergone any material change between the period of the Roman conquest and the present day. The Roman General, Paulinus Suetonius, we are told, constructed flat-bottomed boats in which to pass his infantry over, while the cavalry advanced partly by fording the shallows, and partly by swimming their horses. There are several places where the depth of water, at low tide, does not exceed a fathom, and where the breadth of channel is materially diminished by sands, which then become dry. *Agricola* appears to have dispensed altogether with the use of boats, and to have confined himself to the use of cavalry.

miles S. of the town of Amlwch, where they have been worked for the last hundred years. The grey marble of Anglesey is extensively quarried.

The industry of the county is chiefly agricultural. Pasturage is largely attended to, and great numbers of cattle are reared for the English market. Coarse woollens are woven by the peasantry for their own use.

Anglesey is divided into three divisions known as cantrefs, and these are subdivided into comots (*cwmwds*): the six divisions thus formed are equivalent, in a legal sense, to the hundreds of the English counties. The chief towns are:—

	Pop.		Pop.		Pop.
BEAUMARIS .	2,465	AMLWCH .	5,813	HOLYHEAD .	6,190
LLANGFNI .	1,362			ABERFFRAW	1,338

Holyhead, Beaumaris, Amlwch, and Llangefni, are parliamentary boroughs, and unite in the return of a single member. The county returns one member.

Beaumaris, the county-town, is situated upon the west side of the northern approach to the Menai Strait, there called Beaumaris Bay. Its chief modern importance is due to its being a place of resort for sea-bathing. The town owes its origin to Edward I., who erected for its protection a strong castle, the remaining portions of which now form a place of public recreation. *Amlwch*, near the north coast of the island, dates its growth into a town from the opening of the copper mines in the neighbourhood of Parys Mountain, in 1768. *Llangefni*, nearly in the centre of the island, has extensive cattle-markets. *Aberffraw*, between 7 and 8 miles S.W. of Llangefni, near the S.W. coast, is interesting as having been, for a considerable period prior to the conquest by Edward I., the residence of the native princes of North Wales.

Holyhead, on the western coast of the county, and near the northern extremity of the island called by its name, is the most considerable place in Anglesey, and has risen in importance within a recent period, since the construction of the Chester and Holyhead railway, and its subsequent use as the chief packet-station for communication with Ireland. Vast engineering works, still in progress, have been undertaken for the improvement of Holyhead Harbour, by the construction of an extensive pier and breakwater, so as to render it a secure place of refuge for shipping, in all weather. The coast in the immediate neighbourhood of Holyhead is wild and rugged in the extreme.

acres, or 579 square miles. It forms the north-western extremity of the Welsh mainland. The limit of the county to the eastward is marked chiefly by the river Conway, but the tract lying on the east side of that stream at its outlet into the sea (as well as a tract which adjoins its right bank, farther up) belongs to Caernarvonshire. This piece of land, which forms the northernmost extremity of Caernarvonshire, terminates in Great Orme's Head, a short distance east of which is Little Orme's Head. From the main body of the county, an arm projects to the south-westward, terminating in the headlands of Braich-y-Pwll and Penrhyn-du. Between Great Orme's Head and the headland of Braich-y-Pwll, the coast of Caernarvonshire is washed by the Irish Sea and the Menai Strait: the coast to the east and north-east of Braich-y-Pwll is formed by the upper portion of Cardigan Bay. Between the headlands of Braich-y-Pwll and Penrhyn-du are Aberdaron Bay and the dangerous gulf known as Hell's Mouth. The shores of this portion of the county are almost throughout marked by steep cliffs: elsewhere, the coast-line is generally low, though the mountains of the interior make near approach to the sea, and in some cases advance close to its waters.

The Lavan Sands, which stretch to the east and north of Bangor, are of vast extent, reaching 7 miles out to seaward, and terminating in that direction opposite to the extreme N.E. point of Anglesey. Several islands lie off the south-western extremity of the county. The largest of them is Bardsey, which was early the seat of a religious establishment. St. Tudwall's Islands, two in number, are farther to the eastward.

The general surface of Caernarvonshire is wild and rugged. High mountains stretch through the interior of the county, in the direction of its length. These include, within its northern and broader portion, the group of Snowdon, which reaches a greater height than any other of the mountains of South Britain. The mountain-region includes numerous deep and narrow valleys, most of which form the beds of lakes. From the Snowdon region, the mountains gradually decline in height as they traverse the south-western peninsula.

The higher elevations within Caernarvonshire, proceeding from north to south, comprehend:—

	Feet		Feet
Pen-maen-mawr . . .	1,540	Craig Goch (or Llwyd	
Carnedd Llewellyn . . .	3,469	Mawr) . . .	
Carnedd Dafydd . . .	3,429	Bwlch Mawr . . .	1,673
Snowdon . . .	3,590	Rivel . . .	1,867
		Mynydd-y-Rhiw . . .	

Pen-maen-mawr approaches close to the sea, between the mouth of

the Conway and the northern entrance of the Menai Strait. The high road which passes along the northern coast of the county winds round its base, and the line of the Chester and Holyhead railway follows the same direction, being partly carried through a tunnel which pierces the mountain-cliffs, immediately above the sea.

Caernarvonshire includes a vast number of rivers and lakes. Most of the former are mountain-streams, some of which, however, expand into considerable estuaries immediately above their outlets to the sea. The longest and most important river is the Conway, which rises in Llyn Conway, near the Denbighshire border. The Conway becomes navigable from the town of Llanrwst downwards—i.e. for the last 13 miles of its course. It receives numerous affluents on its left bank, among which the Machno, the Lleder, and the Llugwy, are the most considerable.

Among the other rivers of Caernarvonshire, the most important are the Ogwen, the Seiont, the Gwrfai, and the Glaslyn. The three former have northerly or westwardly courses, and enter the Menai Strait: the Glaslyn flows to the southward, into the head of Cardigan Bay. The Seiont passes in the upper part of its course through the beautiful lakes of Llanberris, and has the town of Caernarvon at its mouth. Nearly all the streams within the higher mountain-region are connected with lakes, which lie numerous upon the sides and round the base of Snowdon and the adjoining mountains.

Caernarvonshire consists almost entirely of primary or palæozoic rocks, belonging to the lower Silurian system of modern geology. The greywacke and indurated schists of which these are composed alternate, in many parts of the county, with masses of porphyry, hornblende, mica and chlorite slate, and other altered rocks. Secondary formations only occur in the neighbourhood of the sea. A narrow strip of carboniferous limestone lines the shore of the Menai Strait, between Caernarvon and Bangor, and the projecting tract which terminates in Great Orme's Head belongs to the same formation. The most valuable mineral produce of the county is slate; this is quarried upon a scale of vast magnitude at Nantle (to the S. by E. of Caernarvon, and connected with that town by railway), and at Penrhyn, in the valley of the Ogwen river (5 miles S.E. of Bangor). The Penrhyn slate-quarries are among the largest in the kingdom. The slate assumes in some cases the character of marble, and is capable of bearing a high polish: it is extensively used for chimney-slabs and like purposes. Both copper and lead are worked within the county—the former in the neighbourhood of Llandudno, on the coast, the latter within the mountain-region. These and several other ores abound within and about the Snowdon group.

The industry of Caernarvonshire is chiefly agricultural. A large number of the population are employed in the slate quarries.

Caernarvonshire is divided into 10 hundreds. Its principal towns are:—

	Pop.		Pop.		Pop.
CAERNARVON	8,530	Llandudno	1,131	CRICCIETH .	530
BANGOR .	6,795	NEVIN .	1,854	TREMADOC .	
CONWAY .	2,105	PWLLHELI .	2,709	PORT MADOC	

Caernarvon, the contributory boroughs of Conway, Criccieth, Nevin, and Pwllheli, and the city of Bangor, jointly return one member to the House of Commons. The county also returns one member. The county-town is Caernarvon.

*Caernarvon** is situated on the east side of the Menai Strait, and the mouth of the river Seiont, which comes down from the heights of Snowdon and the beautiful vale of Llanberris. It is conspicuous from its massive castle, the erection of Edward I., the walls of which are still nearly entire. The town now derives its chief support from the export of slate—the produce of the extensive Nantle and other quarries, and the resort thither of numerous visitors during the summer bathing-season. A short distance to the east of the present town is the site of the Roman Segontium (Caer Seiont),† whence numerous remains of antiquity have been derived.

Bangor, near the northern entrance of the Menai, and a short distance west of the mouth of the Ogwen river, is a cathedral city. The present cathedral dates from the beginning of the 12th century, but an older edifice (destroyed by the Saxons in 1071) carried its origin back to the early part of the 6th century. Bangor has increased considerably in extent since the construction of the Chester and Holyhead railway, and is a place of extensive resort by sea-side visitors. The slate worked in the Penrhyn quarries is exported thence. *Conway* (or Aber Conway), near the eastern extremity of the county, lies at the mouth of the river Conway, on its left bank. Its extensive and massive castle, portions only of which now remain, was one of the fortresses built by Edward I. for the purpose of securing his conquests in this region. The channel of the Conway is crossed here by a suspension bridge, and also (side by side with that structure) by a tubular bridge which forms part of the line of the Chester and Holyhead railway. *Llandudno*, a rising watering-

* That is, *Caer-yn-Arvon*, the town or fortress in Arvon, as this part of Wales was called by its native inhabitants.

† See *ante*, p. 91.

place, not far distant from the eastern base of Great Orme's Head, is three miles to the N. of Conway.

The small towns of *Nevin*, *Pwllheli*, and *Criccieth*, are situated upon the coast of the peninsular portion of Caernarvonshire—the first-named on the side of the Irish Sea, the two others upon Cardigan Bay. *Tremadoc*, with the adjacent town of Port Madoc, is within the tract adjoining the outlet of the Glaslyn river, near the Merioneth border. Both Tremadoc and Port Madoc are of modern origin, having been built within the present century upon ground which was formerly part of a vast sandy waste called *Traeth-mawr*, covered by the sea at high water, and reclaimed by engineering means.

3. DENBIGHSHIRE, a maritime county, has an area of 386,052 acres, or 603 square miles. It is of very irregular shape and unequal proportions, being at one point narrowed by the adjacent counties of Flint and Merioneth, upon either side, to a breadth of less than seven miles. The seaward portion of its frontier does not extend more than ten miles: this comprehends the tract of coast reaching west from the mouth of the river Clwyd, nearly as far as Little Orme's Head, which is only a short distance from the outlet of the Conway. Throughout this extent, the coast is low, and bordered by extensive sands. Nearly the whole western border of the county is formed by the course of the Conway. The river Dee forms part of the eastern border, and also a small part of that to the southward. The Tanat, an affluent of the Severn, marks the extreme southern limit of the county. The Clwyd forms for a short distance the county-border to the north-east, on the side of Flintshire.

The greater part of Denbighshire is hilly. The high grounds, however, nowhere reach an elevation equalling that of the mountains that belong to the adjacent counties to the west and south. The most extensive valleys are those of the Conway, the Clwyd, and the Dee. These are divided from one another by ranges and wide-spreading groups of hills.

The most extended range of high ground within Denbighshire is that of the Hiraethog Hills (*Mynydd Hiraethog*), which stretch along the east side of the Conway, and thence, in a south-eastwardly direction, towards the valley of the Dee. The highest point of the range, *Mwdwl Eithin* (about 7 miles S.E. of the town of Conway), reaches 1,660 feet. The Hiraethog Hills present a steep acclivity to the Conway valley, on the west, and have their longer slope towards the north and east, in the direction of the Clwyd and its affluents. The various offsets from the range stretch far out to the eastward, and fill the chief part of the surface of the county in that direction, as far as the valley of the Clwyd.

To the east of the Clwyd, Denbighshire includes the chief part of a long range of hills which border the valley of that river upon its eastern side, and which lie in part along the boundary between the counties of Denbigh and Flint. In this range (sometimes distinguished as the Clwydian Hills) the highest summit is Moel Famau, 1,845 feet—a short distance N.E. of the town of Ruthin. Moel Arthur, to the northward, is 1,491 feet. This range is divided by the valley of the river Alyn (an affluent of the Dee) from another and parallel range, which stretches along the eastern bank of the Alyn, and thence southward to the Dee valley. The mountain called Cyn-y-Brain, in this latter range, reaches the height of 1,858 feet. Upon the south side of the Dee valley are the mountains of the Berwyn chain, a portion of which lies along the Denbighshire and Merionethshire border.

The chief rivers of Denbighshire are the Clwyd, with its affluents, the Elwy and the Aled: and the Dee, with its affluents, the Alwen, Ceiriog, Clywedog, and Alyn. The Clwyd, which has a total length of about 30 miles, flows through the fertile vale of Clwyd, which below Ruthin has a breadth of between five and six miles. The Elwy, which brings with it the waters of the Aled, joins the Clwyd on its left bank, above Rhuddlan, from which place downward to the sea (a distance of between two and three miles) the Clwyd is navigable for vessels not exceeding 70 tons burthen.

The Dee, which enters Denbighshire from the adjoining county of Merioneth, flows through the beautiful vale of Llangollen, the greater part of which is within this county. The Alwen, the Clywedog, and the Alyn, join the Dee on its left bank; the Ceiriog (which forms part of the county-border, on the side of Shropshire) on its right bank.

The river Tanat, and its affluent, the Rhaiadr, which mark the extreme southern boundary of Denbighshire, belong to the Severn basin. The waterfall of Pistill Rhaiadr, which occurs in the course of the Rhaiadr river, and has a total descent, broken into two parts, of 200 feet, is one of the most celebrated in Wales. There are several small lakes within the county.

The larger portion of Denbigh consists of rocks belonging to the Silurian period, that is, of clay-slates and various schistose strata. These compose nearly all the western division of the county, as well as a part of the range of hills on the east side of the vale of Clwyd. The Vale of Clwyd, from the sea upwards to the neighbourhood of Ruthin, consists of new red sandstone, which formation also skirts the coast for some distance on either side of the mouth of the river. A belt of carboniferous limestone intervenes, on the western side of the valley, between the red sandstone strata and the Silurian rocks. Carboniferous limestone, succeeded by millstone-grit and coal, is

extensively developed in the eastern part of the county, where it stretches across the valley of the Dee, below Llangollen. The carboniferous area here includes a coal-field of considerable value.

The Denbighshire coal-field commences three miles S. of the town of Oswestry, in Shropshire, where the new red sandstone rests directly on the millstone-grit, and extends northward by Oswestry, Ruabon, and Wrexham, to the north of the valley of the Alyn, which winds through a deep defile, and exposes in its banks an almost complete section of the coal formation. The length of the coal-field is about 18 miles, and it has at Wrexham a breadth of about 4 miles.* Numerous pits are extensively worked within this coal-field, chiefly in the neighbourhood of Ruabon and Wrexham. Some of the coal is sent to the metropolis. Several lead-mines are worked within the county. Ironstone is also wrought within the coal-district. There are likewise several slate quarries.

Denbighshire is chiefly an agricultural county. The manufacture of flannel and other woollen goods is carried on in Wrexham and other towns. The coal-pits, iron works, lead mines, and quarries, give employment to numerous hands.

Denbighshire is divided into 6 hundreds. Its principal towns are:—

	Pop.		Pop.		Pop.
RUTHIN .	3,373	LIANRWST .	3,984	RUABON .	11,507
DENBIGH .	5,946	WREXHAM .	6,714	Llangollen .	5,260
ABERGELE .	3,307	HOLT .	1,029	Chirk .	1,590

Denbigh, Holt, Ruthin, and Wrexham, are parliamentary boroughs, jointly returning one member. The county also returns one member. Ruthin, at which the assizes are held, now ranks as the county-town: the quarter-sessions are held alternately at Ruthin and Denbigh.

Ruthin is situated on the right bank of the river Clwyd. Its origin seems to have been due to a strong castle (now replaced by a modern edifice), called Ryddin, or the Red Fortress, which was erected in the time of Edward I. *Denbigh*, six and a half miles N.W. of Ruthin, lies on the western side of the vale of Clwyd, upon the steep slopes of an insulated hill, the summit of which is crowned by the ruins of a castle, also dating its erection from the time of Edward I. This castle is connected with some events in English history, belonging to the period of the Civil War. *Abergele*, near

* Hull: *Coal-fields of Great Britain*.

the sea coast (10 miles to the N.W. of Denbigh), has risen into importance of late years as a summer watering-place.

Wrexham, in the eastern part of Denbighshire, is the largest town in the county. It lies within the valley of the Clywedog river—an affluent of the Dee—and forms the centre of an important mining district. Its markets and fairs are among the most frequented in North Wales. *Ruabon* is between 4 and 5 miles S.W. of Wrexham, and only a short distance from the left bank of the Dee. The village of *Llangollen*, which gives its name to the beautiful valley watered by the Dee, within the middle portion of its course, is on the south bank of that river, 9 miles S.W. of Wrexham.

The line of Offa's Dyke * passes through the eastern part of Denbighshire, as also does a portion of the similar work known as Watt's Dyke, which runs nearly parallel to the former, and a short distance eastward of it.

4. FLINTSHIRE, a maritime county, the smallest in Wales, has an area of 184,905 acres, or 289 square miles. It consists of two detached portions, the smaller and more eastwardly of which adjoins the right bank of the river (advancing between the English counties of Cheshire and Shropshire), and is entirely inland. The larger part of the county is to the west of the lower Dee, extending along the estuary of that river, and also along the open waters of the Irish Sea, for a distance of between eight and nine miles, between the Point of Air and the mouth of the river Clwyd. The coast is low, and bordered by extensive sands. A vast expanse of sand and ooze occupies, at low water, the chief part of the Dee estuary, through which the river winds in a narrow stream, only rendered capable of navigation by aid of an artificial channel, through which its waters, retained by a dam above the city of Chester, pass in a direct line to the head of the estuary. The marshy tract upon either side of this artificial channel, from a short distance below Chester to the head of the estuary, belongs to the county of Flint.

The larger part of Flintshire has a hilly surface. The highest eminences are on the western or Denbighshire border, where Moel Famau, in the chain of hills which borders the vale of Clywd, is 1,845 ft. high.† The hills which bound on the east the valley of the Upper Alyn are also in part upon the Denbighshire border. The more central portions of Flintshire are traversed by a range of high ground, stretching through the length of the county, and part of which is known as the Halkin Mountains. These are of inconsiderable

* See *ante*, p. 154.

† See p. 445.

height, falling greatly below 1,000 feet, but they impart much diversity of feature to the general aspect of the county. Towards its south-eastward portion, the range of high ground divides the valley of the Dee from that of its affluent, the Alyn. The detached portion of Flintshire lying eastward of the Dee has a surface which is either level, or gently undulated.

The chief rivers of Flintshire are the Dee, the Alyn, and the Clwyd. The last-named forms part of the county-border, on its western side, but a small tract lying to the west of the Clwyd (and within which the city of St. Asaph is situated) belongs to Flintshire. The Alyn has a considerable portion of its course within Flintshire, but passes out of the county about eight miles above its junction with the Dee.

Geologically, the county of Flint falls almost wholly within the carboniferous area. Carboniferous limestone, millstone-grit, and coal, follows in succession across the tract that intervenes between the hills upon the Denbighshire border and the upper part of the Dee estuary—that is, across the breadth of the county. The north-western extremity of the county, within and adjacent to the lower part of the Clwyd valley, consists of new red sandstone. Nearly the whole of the detached portion of Flintshire which lies to the east of the Dee belongs to the new red sandstone formation of the Cheshire plain.* Within this tract, the sandstone is bordered on the west by a belt of magnesian limestone, a small part of which falls within the county of Flint.

The Flintshire coal-field is nearly continuous with that of the adjoining county of Denbigh. The two are disconnected by the upthrow of carboniferous limestone and millstone-grit over a small tract of country lying between the villages of Gresford and Hope, within the valley of the Alyn river. From this locality, on the borders of Flint and Denbigh, the Flintshire coal-field extends along the western side of the estuary of the Dee to the Point of Air, a distance of 15 miles: throughout a considerable portion of its range, however, the productive portion of the field is very narrow, and greatly broken by faults.† The general dip of the beds is to the N.E., in which direction they no doubt underlie the red sandstone of the Cheshire plain. The coal reappears, indeed, on the opposite side of the estuary of the Dee, in the neighbourhood of Parkgate (Cheshire). Besides coal, Flintshire has varied mineral wealth. Numerous lead-mines are worked, chiefly in the neighbourhood of Holywell, and to the south-eastward of that town: silver is derived from several of the mines. Zinc and iron are also worked.

* See *ante*, p. 319.

† Hull: *Coal-fields of Great Britain*.

Excepting as regards its mining industry, Flintshire is chiefly an agricultural county. The lead and coal mines employ large numbers of its population, which is more dense than that of any other county of North Wales. Some branches of the cotton and woollen manufacture, with the making of earthenware, and various works in metal, are carried on at Holywell, Mold, and other places.

Flintshire is divided into 5 hundreds. It includes the following towns:—

	Pop.		Pop.		Pop.
MOLD . . .	3,432	FLINT . . .	3,296	RHYL . . .	1,563
Caergwrle . .	719	HOLYWELL . .	5,740	ST. ASAPH . .	2,041
HAWARDEN . .	6,203	CAERWYS . .	947	OVERTON . .	1,479
		RHYDDLAN . .	1,472		

The town of Flint, with the contributory boroughs of St. Asaph, Rhyddlan, Holywell, Mold, Caerwys, Caergwrle, and Overton, returns one member to the House of Commons. The county also returns one member. Mold is the county-town.

Mold is situated on the right bank of the river Alyn, 11 miles (in direct distance) W. by S. of Chester, with which city it is connected by railway. A castle of early date (prior to the time of the English conquest) formerly stood on an eminence immediately to the north of the town. *Caergwrle*, now a mere village, though ranking as a parliamentary borough, is on the Alyn, six miles S.E. of Mold. It was formerly a place of considerable importance, and had a strong castle—long since in ruin—which commanded the entrance of the valley of the Alyn.* *Hawarden*, 5 miles E. by N. of Mold (and midway between Mold and Chester), had also in former times one of the many border castles of this troubled locality.

The town of *Flint*, formerly the county-town, stands on the left side of the estuary of the Dee. The remains of its ancient castle, built in the time of Henry II., and strengthened by Edward I., lie at the north-eastern extremity of the town, immediately adjacent to the river. *Holywell*, the largest town in the county, is 4 miles N.W. of Flint, in the centre of a mining and manufacturing district. The town stands upon ground which rises gently inland from the Dee estuary, and at a distance of little more than a mile from its water. Holywell derives its name from a celebrated spring, early consecrated to St. Winifred. The populous village of Greenfield, which has extensive copper, zinc, and other works, lies about a mile distant from Holywell, on the shore of the estuary. Adjoining Greenfield, to the

* Numerous Roman remains have been found at Caergwrle, hence supposed to have been an outpost of the 20th legion, which had its permanent quarters at Chester, or Deva.

east, are the remains of Basingwerth Abbey, one of the most celebrated of the early religious foundations of the ancient British people.* *Caerwys*, now a mere village, is about 4 miles S.W. of Holywell, near the Denbighshire border.

St. Asaph, a cathedral city, lies in the western part of the county, on the slope of a hill which intervenes between the Clwyd and Elwy rivers, and immediately adjacent to the latter. The cathedral, the walls of which are as old as the thirteenth century, occupies the summit of the hill. *Rhyddlan*, on the right bank of the Clwyd, is between 2 and 3 miles N. of St. Asaph. Portions of its ancient castle, built by Edward I., immediately above the river, still exist, as well as some indications of the site occupied by a castle of earlier date, built by one of the native Welsh princes in the eleventh century. *Rhyl*, $2\frac{1}{2}$ miles N.W. of Rhyddlan, on the shore of the Irish Sea, and near the mouth of the Clwyd, has become a favourite resort as a watering-place since the opening of the Chester and Holyhead railway, upon the line of which it is situated.

5. MERIONETHSHIRE, a maritime county, has an area of 385,291 acres, or 602 square miles. It extends along the shore of Cardigan Bay between the mouths of the Glaslyn and Towy rivers, the former of which divides it from Carnarvonshire, the latter from Cardigan-shire and Montgomeryshire.† The coast of Merioneth is throughout bordered by extensive sands. The shore is for the most part low, but rises for a few miles into cliffs in two localities, one of them about midway between the outlets of the rivers Dwyrid and Maw, the other nearly in the middle of the tract which extends between the Maw and the Dovey. The inland border of the county is for the most part marked by high mountains, especially towards the east, on the side of Montgomeryshire and Denbighshire, where it coincides with the summits of the Berwyn range.

The whole of Merioneth is mountainous. The surface of the

* The line of Offa's Dyke commenced at Basingwerth. See *ante*, p. 154, *note*.

† At the extreme north of the Merionethshire coast are the estuaries called Traeth-mawr and Traeth-bach. The former of these, which is on the Carnarvonshire border, receives the waters of the Glaslyn river; the latter, which is a short distance further south, forms the outlet of the river Dwyrid. Both estuaries present, at low water, a vast expanse of shifting sand. A large portion of the Traeth-mawr (formerly, as the terminal "mawr" implies, the more extensive of the two, but now inferior to the Traeth-bach in magnitude) has been reclaimed from the sea by an artificial embankment. Port Madoc, in Carnarvonshire, is situated at the western extremity of this embankment. See *ante*, p. 444.

entire county presents a succession of lofty mountains, with deep valleys (or "cwms") between — the latter watered by numberless torrents, many of which form magnificent waterfalls. No part of Wales, indeed, exhibits more varied and beautiful scenery than this county. The mountains generally lie in groups and broad-spreading masses, rather than chains, excepting on the north-eastern border, where the Berwyn Mountains form a continuous ridge, extending for several miles in the direction of N.E. and S.W., along the southern and eastern side of the Dee valley, and forming the watershed between the Dee and the Severn basins. Cader Berwyn, in this range (on the Merionethshire and Denbighshire border), reaches the height of 2,563 feet. The mountain-groups which fill up the central and western portions of the county, however, surpass the Berwyn chain in altitude. The highest summit in the county is Cader Idris, 2,959 feet, which borders the estuary of the Dovey river to the southward, and overlooks a vast area of country.* Aran Mowddu, to the eastward of the Wnion valley (9 miles E.N.E. of Dolgelly), is 2,955 feet. The highest summit of the Arenig group, further to the north (6 miles W. of Bala), is 2,816 feet. High mountains stretch, at a short distance inland from the shore of Cardigan Bay, between Cader Idris on the south and the Snowdon group on the north, broken only by the valleys of the rivers which descend to the sea between those limits.

The principal rivers of Merioneth are the Dee, the Maw (or Mawddach), the Dovey, the Disinwy, and the Dwyrid. With the exception of the Dee and its affluents, all of them enter Cardigan Bay, to which the larger portion of the drainage of the county belongs. The Dee has its source within the county, and flows through the lake of Bala, or Llyn Tegid (also known as Pimble-mere), the largest lake in Wales.† After issuing from the lake, it has a farther course of nearly twenty miles before leaving Merionethshire. At a short distance below the lake of Bala, the Dee receives on its left bank the Tryweryn river, and, twelve miles lower down, the river Alwen.

The Dovey or Dyfi river rises in a small lake on the mountain of Aran Mowddwy, and flows in a south-westerly direction to Cardigan Bay, which it enters through an extensive estuary. Only the first 11 miles of its course are entirely within Merionethshire: it thence passes into Montgomeryshire, and forms, lower down, the line of division between the two counties. The Maw (or Mawddach) rises

* The view from the summit of Cader Idris embraces, to the eastward, the Wrekin, near Shrewsbury, so completely does it overtop all the intervening elevations in that direction.

† See *ante*, p. 57.

in the central part of the county, and has also a general course to the S.W. It is joined by the Eden on its right bank, and the Wnion (upon which the town of Dolgelly stands) upon the left. The Dysinwy rises at the eastern extremity of Cader Idris, and flows in a S.W. direction into the sea, between the outlets of the Dovey and the Maw. It passes, a short distance below its source, through the lake of Tal-y-llyn, which is upwards of a mile in length.

The river Dwyrid collects the waters of several small streams within the north-west corner of the county, and flows past the southern base of the Moelwyn mountain, reaching the sea through the extensive estuary of Traeth-bach.

Geologically, the whole of Merioneth is composed of the slaty rocks and primary limestones which form the lower members of the Silurian series. Masses of igneous origin, chiefly porphyry, protrude in many places through the sedimentary strata, and form the rugged sides of some of the higher mountains, as in the case of Cader Idris. The most valuable mineral production of the county is slate, which is quarried in several places — in the neighbourhood of Corwen (in the valley of the Dee), at Festiniog (within the valley of the Dwyrid), and elsewhere. Several lead-mines are worked. Considerable attention is at the present time given to gold-mining. The quartz and other primary rocks of Merionethshire are extensively penetrated by veins of gold.

The county of Merioneth is (with the exception of Radnor) the most thinly populated portion of Wales. Its industry is principally in connection with the mines and slate-quarries; next to that, with husbandry, chiefly pastoral. There is some manufacture of coarse woollen cloths and flannels at Dolgelly and a few other places.

Merionethshire is divided into 6 hundreds. Its towns are: —

	Pop.		Pop.		Pop.
DOLGELLY .	2,041	ABERDOVEY .		BALA .	1,255
BARMOUTH .	1,673	DINAS		Harlech .	
TOWYN .	2,769	MOWDDY .	300		

The assizes are held alternately at Dolgelly and Bala, but the former is regarded as the county-town.

Dolgelly is situated in the fertile valley of the Wnion river, near the northern base of Cader Idris. *Barmouth*,* between 7 and 8 miles distant, in a direct line, from Dolgelly, is situated on the

* Properly Aber-maw — from its situation at the mouth of the river Maw, corrupted by abbreviation into Bermaw, and thence into Barmouth.

north side of the entrance to the Maw. It has become of late years much resorted to as a summer watering-place. *Towyn*, near the mouth of the Dysinwy river, is similarly frequented, as likewise is *Aberdovey*, on the extreme southern border of the county.

Bala, a place of favourite resort for tourists, is situated in the eastern part of Merionethshire, at the foot of the lake to which its name is given. There are several Roman remains in the neighbourhood of *Bala*, as well as in other parts of the county. *Harlech*, near the coast (12 miles N.W. of Dolgelly), though ranking as a town, is a mere village, rendered noteworthy only by the remains of its strong castle, one of the erections of Edward I., and now a picturesque ruin.

6. MONTGOMERYSHIRE, an inland county, has an area of 483,323 acres, or 755 square miles. A portion of its frontier-line, in the north-west, is formed by the high mountains which divide the basin of the Dee from that of the Severn, within the latter of which the greatly larger portion of the county is included. The Tanat and the Virnwy, both of which belong to the Severn basin, form portions of the northern border of the county, on the side of Denbighshire and Shropshire. Great part of the eastern and southern border is marked by high grounds. In the direction of south-west, the huge mass of Plinlimmon is on the Montgomeryshire and Cardiganshire border.

The larger part of Montgomeryshire has a mountainous surface, but the elevations are below those of the counties lying to the north and west, and the valleys within its eastern division are of greater breadth. The general slope of the county is to the south-east, with the exception of its extreme western portion, which inclines toward Cardigan Bay. The western division of the county consists for the most part of bleak and open moorland; its eastern half, especially the English border, includes numerous extensive valleys, many of them distinguished by great fertility.

The highest summit of Plinlimmon, 2,481 feet, lies immediately beyond the south-western border of Montgomeryshire, and within the adjoining county of Cardigan. A succession of high grounds (by which the basin of the Severn is divided from those of the Dovey and the Dee) may be traced to the north and north-eastward of Plinlimmon until they become united to the Berwyn range, on the borders of Merioneth and Denbigh. They form, however, not so much a continuous chain, as a portion of the whole mountain-mass of which this part of the principality is composed. None of the summits that are within Montgomeryshire equal Plinlimmon in height.

The high grounds by which the valley of the upper Severn is bordered upon the east and south include the Breidden Hills, the Long Mountain, and the ridge of Kerry Hill, which are chiefly within the eastern division of Montgomeryshire—the two first-named adjacent to the Shropshire border, the last on the side of Radnorshire. The highest of the Breidden Hills (upon which is erected a pillar in memory of Lord Rodney) reaches 1,199 feet. The Long Mountain—a prolonged ridge running nearly parallel to the course of the river Severn, in the neighbourhood of Welshpool, and between two and three miles to the eastward of that town—is 1,330 feet high. Kerry Hill reaches 1,895 feet.

The chief rivers of Montgomeryshire are the Severn, and its affluent, the Virnwy. The Severn rises on Plinlimmon, and has the first fifty miles of its course within Montgomeryshire. It first becomes navigable at Welshpool, but the Montgomeryshire canal, which runs parallel to the course of this river, carries the navigation up to Newtown, within 24 miles of its source. The Virnwy joins the Severn on its left bank, after running for several miles along the northern border of the county. The Virnwy receives the Einion, and, low down, the Tanat, with many smaller streams. Of numerous streams that join the Severn above the confluence of the Virnwy, the Taramon, the Carno, and the Rhiw, on the left bank, the Mule and Camlad, on the right, are the most considerable.

The Wye rises within Montgomeryshire, and has the first few miles of its course within the county. The Dovey drains the extreme western part of the county, and receives several small affluents within its limits. There are several small lakes (or llyns) within the county.

The geology of Montgomeryshire exhibits, throughout the county, the slaty rocks which constitute the Silurian system of modern geology. These rocks—the oldest, in point of date, of the fossiliferous strata, were formerly included under the term greywacke. Both the upper and lower divisions of the Silurian system, as now recognised, are represented within Montgomeryshire—the former (to which belong the rocks known as the “Ludlow series,” including various finely laminated reddish sandstones, with micaceous sandstones of grey colour, and argillaceous limestone) within the eastern half of the county; the lower, or “Llandeilo” series (consisting of dark calcareous flags and slates, with, in some localities, a whitish free-stone), in its western division. Slate and lead are the chief mineral productions of Montgomeryshire. Numerous lead-mines are worked, and silver is obtained from some of them. Stone, for building and other purposes, is quarried in several parts of the county.

The industry of Montgomeryshire is principally devoted to agri-

culture and pasturage. There is, however, an extensive manufacture of woollen goods, chiefly flannel, at Newtown; the making of flannel is also followed, on a less extensive scale, at Welshpool and other places within the county. The agricultural produce of the eastern portion of the county is considerable.

Montgomeryshire is divided into 9 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
MONTGOMERY	1,248	NEWTOWN	6,371	LLANFYLLIN	1,116
WELSHPOOL	6,564	LLANIDLOES	3,045	MACHYNLLETH	1,673
		LLANFAIR.	2,727		

The places above named, with the exception of Llanfair, are parliamentary boroughs, and jointly return one member: Montgomery is the principal borough, and the other five are contributory boroughs. The county returns one member.

The town of *Montgomery* lies near the eastern border of the county, about two miles distant from the right bank of the Severn, and less than one mile to the west of Offa's Dyke. Its ancient castle, now in ruins, stood on a steep eminence in the northern outskirts of the town. *Welshpool** stands on the left bank of the Severn. Its importance in early times was derived from its neighbouring castle, one of the strongholds of the native chieftains of Powys, and a frequent scene of contest between the English and Welsh. Powys Castle—as the structure which has replaced the more ancient edifice is called—is about three-quarters of a mile S. of the town. Welshpool has considerable trade in agricultural produce, and as a market for flannels and other goods.

Newtown, the largest town in Montgomeryshire, lies on the right bank of the Severn, 8 miles S.W. of Montgomery. It has of late years become the chief seat of the flannel manufactures of North Wales, and has, besides, potteries, tan-yards, malt and lime-kilns, &c. *Llanidloes*, 13 miles higher up the Severn valley, lies also on the right bank of the stream, at the point where it is joined by the Clywedog. To the west of Llanidloes, the ground rises rapidly into bare moors, which extend to the slopes of Plinlimmon, only a few miles distant. *Llanfair*, in the central part of the county, is on the Einion river, an affluent of the Virnwy. *Llanfyllin*, farther north, lies in the valley of the Cain, which also joins the Virnwy. *Machynlleth*, in the extreme S.W. of the county, is on the left bank of the Dovey river, a short distance below the confluence of the Dulas.

* Or, properly, Pool—which is also the name of the hundred in which it is situated. The prefix is added to distinguish it from the town of Poole, in Dorsetshire. Welshpool derives its name from the pool or lake of Llyn-du, to the south of the town.

II. SOUTH WALES.

7. CARDIGANSHIRE, a maritime county, has an area of 443,387 acres, or 693 square miles. It extends along the shore of Cardigan Bay from the estuary of the Dovey (on the border of Merioneth) to the mouth of the river Teify, by which it is divided from the counties of Pembroke and Caermarthen. Cliffs of moderate elevation lie close behind the chief part of the shore-line, excepting within the tract immediately south of the Dovey river. The Teify forms the greater part of the southern border of Cardiganshire; part of its eastern border is marked by the course of the river Towy.

The south-western division of Cardiganshire is chiefly level. The ground rises towards the north and east, in which directions the surface gradually becomes more rugged and mountainous, especially in the extreme north-east. The high grounds, however, exhibit principally tracts of barren moor, consisting of peat, and, in some parts, covered with rushes and heather. Plinlimmon, on the border of Cardiganshire and Montgomeryshire (and chiefly within the former), is 2,481 feet high, an elevation which greatly surpasses that of any other point within the county. Tregaron Mountain (to the east of the town of that name) is 1,747 feet, and Talsarn Mountain (on the N. side of the Aeron valley, between five and six miles S.E. of Aberaeron) 1,143 feet.

The chief rivers of Cardiganshire are the Teify, Aeron, Ystwith, Rheidol, and Towy. All of these, excepting the last-named, flow into Cardigan Bay. The Towy forms part of the border-line of the county, to the eastward, and passes thence into Caermarthenshire.

The Teify is by much the most important river of Cardigan: it rises within the county, and has its whole course either within it or upon its borders. It is navigable for vessels of 400 tons up to the town of Cardigan, three miles above its mouth. The Rheidol rises in a small lake (Llyn Llygad Rheidol) on the north-western side of Plinlimmon, and flows past the western base of that mountain. The source of the Ystwith is a few miles farther south. Both rivers unite in a single channel immediately before entering the sea, a short distance south of the town of Aberystwith.* There are numerous lakes (or llyns) within the county, but none of large size.

* Considerable changes have occurred, in the lapse of years, at the mouths of these streams. The town of Aberystwith, instead of being (as the name implies) at the mouth of the Ystwith river, is now situated on the northern bank of the Rheidol river, which is joined by the Ystwith some distance below. The scenery of the Rheidol and Ystwith valleys, especially that of the former, is particularly celebrated. Among the most attractive of its localities, is that known as the Devil's Bridge,

The geology of Cardiganshire exhibits the slaty rocks that belong to the Silurian period—chiefly those members of the series known as the Bala and Caradoc rocks. Ores of lead, copper, and zinc, occur in many parts of the county, and are extensively worked. Lead-mines, in particular, are numerous. Silver is obtained from several of the lead-mines. There are slate-quarries in the neighbourhood of Aberystwith.

The industry of Cardiganshire is chiefly agricultural. The hardier grains, oats and barley, are those most extensively grown: some of the tracts lying near the coast admit of the culture of wheat. Great numbers of small and hardy sheep are reared on the moors. The county is thinly populated. It ranks higher in this respect, however, than some of the other counties of Wales.

Cardiganshire is divided into 5 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
CARDIGAN .	3,876	TREGARON .	860	ABERAERON .	543
LAMPETER .	907			ABERYSTWITH	5,231

Cardigan, Lampeter, Aberystwith, and Adpar (the last forming the northern suburb of the town of Newcastle-Emlyn, in Caermarthenshire), are parliamentary boroughs—Cardigan being the chief, the other three contributory boroughs—and unite in returning a single member. The county returns one member. Cardigan is the county-town.

The town of *Cardigan* stands on the north bank of the river Teify, about three miles above its outlet. Its chief importance is derived from its shipping trade. Portions of its ancient castle, of Norman origin, still remain.

Lampeter, on the right bank of the Teify (25 miles, in a direct line, nearly due E. of Cardigan), is chiefly noteworthy on account of its theological college—St. David's College—founded in 1822 for the purpose of training candidates for orders in the Church of England. *Tregaron*, also in the valley of the Teify, lies near the left bank of the river, 10 miles above Lampeter.

Aberystwith, on the shore of Cardigan Bay, near the joint outlet of the Rheidol and Ystwith rivers, is the largest town in the county. Aberystwith has a good harbour, for vessels of moderate size (up to 500 tons), and possesses considerable coasting trade. It is also a place of extensive resort for sea-bathing purposes, and has extensive

on the banks of the Mynach, which joins the Rheidol on the right bank of the latter, forming, immediately above the junction, a celebrated waterfall. This point is between ten and eleven miles distant from Aberystwith, in the direction of E. by S.

accommodation for summer visitors. *Aberacron*, at the mouth of the Aeron river (about midway between the towns of Aberystwith and Cardigan), has also some shipping trade.

8. RADNORSHIRE, an inland county, has an area of 272,128 acres, or 425 square miles. The greater part of its frontier line is marked by rivers — by the course of the Wye, and its affluents, the Ithon and Claerwen, on the south-west and south; by the river Teme, on the north-east. The Wye divides the counties of Radnor and Brecknock: the Teme flows, in this portion of its course, between Radnorshire and Shropshire.

The greater part of Radnorshire has an elevated and hilly surface. The hills do not form either continuous ridges or detached peaks, but spread in broad and plateau-like masses, intersected by depressions through which the numerous running streams have their courses. These depressions or river-valleys are of limited extent compared with the higher grounds. The hills of Radnor Forest (to the northward of the town of New Radnor), attain in their highest point 2,163 feet, an elevation considerably above that of any others within the county. Camlo Hill, to the west of the Ithon valley (within the tract included between the Wye and the Ithon), is 1,650 feet; and Rhydd Hywell, on the Montgomeryshire border (east of the road between Rhayader and Llanidloes), 1,750 feet. From the high ground of Radnor Forest, the country descends rapidly to the eastward, in which direction the general slope of its surface is turned.

The principal river of Radnorshire is the Wye, which, with its affluents, drains nearly the whole county. The only portions of Radnorshire which do not fall within the basin of that river are a small tract in the north-east, along the right bank of the Teme, and a still more limited tract in the north, which is watered by an affluent of the Severn. The Wye is not navigable within Radnorshire. Its chief affluents within the county are — the Elan (which is joined by a tributary stream, the Claerwen); the Ithon; the Edw; and the Bachowey, or Bach-wy. These all join the Wye upon its left bank. The Lug, which has the upper portion of its course in Radnorshire, passes into Herefordshire, and joins the Wye considerably farther down, below the city of Hereford. The Lug is joined by the Summerhill, which passes the town of New Radnor. There are several small lakes within the county.

The geology of Radnorshire exhibits, principally, rocks belonging to the Silurian series — those to the west of the river Ithon consisting chiefly of the lower Silurian (or Caradoc and Bala) beds, while the middle and eastwardly divisions of the county belong for the

most part to the Ludlow rocks, or upper members of the Silurian group. The strata assume in many instances a slaty texture, and have in some cases been altered in character by the eruption of masses of trap, which have imparted a crystalline texture to the limestones with which they are in contact. These eruptive and altered masses are found within the eastern division of the county, in the neighbourhood of Presteign and Old Radnor, and thence south-westward to the valley of the Wye, above Builth. The south-eastern portion of Radnorshire exhibits strata belonging to the old red sandstone formation; springs occur in several localities, the principal of them at Llandridnod, in the valley of the Ithon (6 miles N. by E. of the town of Builth, in Brecknockshire), where there are saline, chalybeate, and sulphureous waters. Lead is worked in one or two places within the county.

The industry of Radnorshire is almost exclusively agricultural. Only a small proportion of the land is under the plough, but the pastures are extensive, and the unenclosed moorlands are used as sheep-walks. The average of population to extent of surface is less in Radnorshire than in any other county of Wales, or indeed of South Britain.*

Radnorshire is divided into 6 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
PRESTEIGN .	2,207	Knucklas .		RHAYADER .	1,007
KNIGHTON .	1,566	NEW RADNOR	481	Cefn Llys .	386

All of the above are parliamentary boroughs, and unite in returning a single member. New Radnor ranks as the principal, and the others as contributory boroughs. The county returns one member.

Presteign, the county-town of Radnorshire, lies in the valley of the river Lug, immediately adjacent to the eastern border of the county. *Knighton* is on the right bank of the river Teme, close beside the line of Offa's Dyke, which passes to the west of the town.† *Knucklas*, two miles above Knighton (and within the Teme valley) is a mere hamlet.

The town of *New Radnor*, formerly the county-town, stands on the Summerhill brook, an affluent of the Lug, in the centre of the county, to the S. of the high grounds of Radnor Forest. In point of size, it is a mere village, though formerly a walled town, and

* See Table in p. 272.

† The Welsh name of Knighton is Tref y-clawdd, or "the town upon the Dyke." Many of the towns in Wales have other and older names than their ordinary English appellations, which latter are for the most part either of Saxon or of Norman origin.

possessing a strong castle, the residence of the Mortimers, but destroyed by Owen Glendower in 1401. Old Radnor lies two miles to the south-eastward. The town of *Rhayader* (or *Rhayader-gwy†*), in the north-western portion of the county, is on the left bank of the Wye. Like so many other places in the principality, it had formerly a strong castle, of Anglo-Norman origin, of which there are now but small remains. *Cefn Llys*, eight miles S.E. of Rhayader, and within a bend of the river Ithon, is a mere village.

9. BRECKNOCKSHIRE, an inland county, has an area of 460,158 acres, or 719 square miles. Its boundary to the northward, on the side of Radnorshire, is marked by the course of the river Wye, and its affluents, the Elan and Claerwen. In other directions, the frontier between Brecknock and the adjoining counties—Cardigan and Caermarthen on the W., Glamorgan on the S., Monmouth and Hereford on the E.—is irregular, coinciding, however, in part with the courses of some of the smaller streams that belong respectively to the basins of the Usk, the Taff, and the Tawe. The upper course of the river Towy marks the boundary between the counties of Brecknock and Cardigan.

Brecknockshire has a very irregular and varied surface, rising in some parts to elevations greater than are found in any other portion of South Wales. The highest grounds are within the southern half of the county, where a continuous range of lofty mountains (sometimes called the Black Mountains) stretches along the southern side of the Usk valley, in the direction of east and west. These mountains, which are exceedingly wild and rugged in aspect, are known in their more westwardly portion as the Forest Fawr, and, farther to the east, by the names of Mynydd Llangynidr and Mynydd Pen Cynr. The highest points of the chain are found in the peaks called the Brecknock Beacons, to the S. of the town of Brecknock, the most elevated of which reaches 2,862 feet above the sea.

To the north of the Usk valley, the mountains of Brecknockshire comprehend the high region called the Mynydd Epynt,† within the north-western division of the county, and the tract called the Black Forest, in its eastward portion, towards the Herefordshire border. The Mynydd Epynt form a wide-spread plateau, bounding the valley of the Wye and its affluent the Yrfon to the southward.

* That is, the cataract of the Wye. The fall which the river formed here was destroyed by the removal of portions of the rocks, on occasion of the construction of the bridge which crosses the Wye at this point.

† Mynydd is a Welsh term, signifying mountain.

The hills of the Black Forest, in the east of the county, include the Pen-y-Cader Fawr (or the Cradle Mountain), 2,545 feet in height. The mountain called the Sugar-loaf, 1,856 feet, adjoins the Brecknockshire and Monmouthshire border, but is principally within the last-named county.

A considerable portion of Brecknockshire, however, is of only moderate elevation, and the valleys are generally extensive and open. This is more especially the case with the valley of the Usk, and the tract of country that intervenes between the Usk and the Wye, to the north-eastward of the town of Brecknock. The extreme north-west of the county is for the most part a mere mountain wilderness, consisting of barren moors.

Brecknockshire is watered by numerous rivers, various portions of it falling within the basins of the Wye, the Usk, the Taff, the Neath, the Tawe, and the Towy, besides several less important streams. The principal river belonging to the county is the Usk, which rises upon its western border, and flows through its central portion, in an eastwardly direction, passing into the adjoining county of Monmouth. The Usk has numerous affluents, upon either side, but none of them of considerable length. The Wye is joined on its right bank, within Brecknockshire, by several streams, of which the two most important are the Yrfon and the Llyfni; the latter brings with it the drainage of Llyn Safaddu, or Llangorse Mere (the largest lake of South Wales), which lies five miles E. of the town of Brecknock. The upper portions of the rivers Taff, Neath, and Tawe, all of which rise within Brecknockshire, drain that portion of the county which is to the south of the Forest Fawr.

The geology of Brecknockshire exhibits Silurian strata in the west and north, and old red sandstone in the middle, southern, and eastward divisions of the county. The Silurian strata (like those of the adjoining county of Radnor), belong in part to the Ludlow rocks, and in part to the lower, or Caradoc and Bala, series. The old red sandstone immediately adjoins the former of these upon their eastern side, and occupies the larger portion of Brecknockshire, including the whole of the Usk valley, and the banks of the Wye from a few miles below Builth downwards. Southward of the Forest Fawr, towards the Glamorganshire border, the strata of old red sandstone pass underneath the carboniferous limestones belonging to the South Wales coal-field, some portion of which falls within the Brecknockshire limits, in the south-east. There are mineral springs at Builth and Llanwrtyd, both within the valley of the Yrfon river, and occurring at points where the schistose rocks of the Silurian series have been penetrated by trap.

Brecknockshire is chiefly an agricultural county. The iron manufacture, however, penetrates its south-eastern districts, and there is considerable manufacturing industry within that portion of the county, towards the coal and iron districts of Monmouth and Glamorgan. The greatest extent of cultivable land occurs in the valley of the Usk, below the town of Brecknock, and in the tract which extends thence to the river Wye, past Talgarth, including the valley of the Llyfni river. Good crops of wheat are grown here, and the orchards are on an extensive scale. Barley and oats are grown on the higher grounds to the west, in which direction, however, there is a large amount of uncultivable moorland.

Brecknockshire is divided into 6 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
BRECKNOCK .	5,673	BUILTH .	1,158	HAY .	1,952
CRICKHOWELL	1,403			Talgarth .	1,328

Brecknock, the county-town, is a parliamentary borough, returning one member. The county returns one member.

The town of *Brecknock* (or Brecon) lies chiefly on the left bank of the Usk, at the point where that river is joined by the stream of the Honddu,* from the northward. It is chiefly important as the centre of an extensive agricultural district. The manufacture of flannel and coarse woollen cloths is pursued to a limited extent. Brecknock had formerly a castle, of Norman origin, but of which the site alone can now be traced. *Crickhowell*, also on the left bank of the Usk, is 13 miles S.E. of Brecknock. It has the remains of one of the castles erected by Edward I.

The towns of Builth and Hay are both within the valley of the Wye, and on the right bank of that river. *Builth* lies 14 miles due N. of Brecknock, and half a mile below the point where the Wye is joined by the Yrfon river. A fragment only now remains of its ancient castle, a place of great importance in the troubled periods of Welsh and Anglo-Norman contest.† *Hay* stands in the extreme N.E. of the county, at the point where the counties of Brecknock, Radnor, and Hereford meet. *Talgarth*, in the valley of the Llyfni (an affluent of the Wye), and midway between the towns of Hay and Brecknock, is now a mere village.

* The Welsh name of Brecknock is Aber Honddu.

† It was at Builth that Llewellyn, the last of the Welsh princes, was betrayed into the hands of Edward I. The beautiful scenery of the Wye valley begins about Builth, which is in consequence of great resort by tourists. Its mineral springs, Park Wells, are about a mile distant from the town, to the N.W.

10. GLAMORGANSHIRE, a maritime county, has an area of 547,494 acres, or 855 square miles. It stretches along the Bristol Channel from the mouth of the river Rumney, on the east, to the estuary of Burry river on the west—a distance of above ninety miles. This extensive line of coast includes the headlands of Lavernock Point, Breaksea Point, Nash Point, Sker Point, the Mumbles, and Worms Head—of which the two last-named are the most conspicuous; together with Swansea Bay, and the less considerable recesses of Oxwich Bay and Rhossili Bay. Excepting towards its eastern and western extremities, and around the circuit of Swansea Bay, the Glamorganshire coast is generally marked by high cliffs, with detached masses of rock adjacent to their base. The shores of Swansea Bay are low and sandy. Two small islets, Sully Island and Barry Island, adjoin the coast to the westward of Lavernock Point. The headland called the Mumbles, on the W. side of Swansea Bay, consists of low rocky islets, immediately adjacent to the mainland.

The westernmost portion of Glamorganshire forms the peninsula of Gower, the north side of which is washed by the Burry river or estuary: this exhibits, at low water, a vast expanse of sand, through which the stream of the Loughor river pursues a narrow and winding channel. The courses of the rivers Rumney and Loughor, on the east and west respectively, divide Glamorganshire from the counties of Monmouth and Caermarthen.

Glamorganshire has a varied surface. The middle and northern divisions of the county are hilly; the southward portion, lying along the Bristol Channel, and extending ten or twelve miles inland, is a highly fertile plain, or “vale,” one of the most favoured districts in the British islands.* The vale of Glamorgan is not a level district, but a tract consisting of gentle undulations, with a gradual slope to the southward, in which direction it meets the sea.

The most northwardly districts of Glamorganshire adjoin the southern slopes of the mountains of Brecknock. But those portions of the county are of less elevation than the hilly tract farther south, within the centre of the county, where the hills called the Mynydd Llangeinor reach 1,850 feet. The central high grounds spread over a considerable extent of surface, divided by the valleys of numerous streams that rise within their limits. The longer rivers of the county, however, have their source in the Brecknockshire mountains, and flow round the eastern and western sides of the central hill-region—diverging in the one direction to the south-eastward, in the other, to the south-west.

* See *ante*, p. 26.

The chief rivers of Glamorganshire are—the Rumney, the Taff, the Ely, the Thaw, the Ogmore, the Afon, the Neath, the Tawe, and the Loughor, with their affluents. The Rumney, Taff, Neath, and Tawe, all derive their waters from the mountains of Brecknock. The Thaw, Ogmore, and Afon rise within the county, amongst its central high-grounds. The whole of these rivers flow into the Bristol Channel.

The Taff, which is the longest river of Glamorganshire, forms by its outlet the harbour of Cardiff. It is joined on its right bank by the streams of the Cynion and the Rhondda (or Rontha). The Ely, which enters the estuary of the Taff, below Cardiff, is sometimes regarded as a tributary of that river. The Tawe has Swansea at its mouth. The Loughor, with its tributary the Lliw, enters the estuary called the Burry river. None of the rivers of Glamorganshire are navigable for more than a mile or two above their outlets, but canals have been formed along the valleys of several among them, so that the county possesses an extensive inland navigation, as well as abundant means of land-carriage by railway.

The geology of Glamorganshire has its prime characteristic in the great coal-field of South Wales, the larger portion of which falls within this county. The coal-measures reach the sea upon the shore of Swansea Bay, and also on the estuary of the Burry; elsewhere, the southern limit of the coal formation is divided from the sea by an intervening tract of secondary strata, within which the limestone of the carboniferous period is succeeded by old red sandstone, and, within the southernmost portion of the county, by lias and other rocks of later origin. The coal-area is everywhere surrounded (excepting where it touches the sea) by narrow belts of millstone-grit and carboniferous limestone.

The chief part of the vale of Glamorgan is composed of lias limestone, cliffs of which form the southernmost portion of the shoreline. New red sandstone appears in the neighbourhood of Cardiff, within the lower portions of the Taff valley, and that of its tributary, the Ely. Strata of old red sandstone crop out from beneath the carboniferous limestone at either extremity of the county, towards the mouth of the Rumney in the one direction, and within the peninsula of Gower, in the other. A vast number of coal-pits are worked within the county—most numerous within the valleys of the Tawe, Neath, Taff, and Cynon rivers, and along the southern limit of the coal-field in general. Ironstone abounds within the carboniferous area, and is extensively worked in the same localities as the coal, especially in the neighbourhood of Merthyr and Aberdare (within the valley of the Taff, and that of its affluent, the Cynon). One or two lead-mines are worked.

Glamorganshire is chiefly distinguished as a mining and manu-

facturing county. It forms one of the great seats of the iron manufacture. The manufacture of copper, tin, and other hard wares, is also carried on. The smelting of copper and other ores, brought in many cases from distant parts of the globe, forms one of the chief characteristics of the industry of Swansea and its neighbourhood. Large portions of the county, however, are agricultural, especially the tract known as the vale of Glamorgan, the soil of which is exceedingly fertile, and within which a great number of rural villages are found. The great bulk of the population centres in the neighbourhoods of Merthyr, Aberdare, and Swansea, which are the most thickly-populated portions of Wales.

Glamorganshire is divided into 10 hundreds.* Its towns are:—

	Pop.		Pop.		Pop.
CARDIFF	32,421	CAERPHILLY	634	KENFIG	285
LLANDAFF	1,821	COWBRIDGE	1,066	ABERAFON	2,380
MERTHYR-		LLANTRIS-		NEATH	5,841
TYDVIL	83,844	SANT	1,007	SWANSEA	42,581
ABERDARE	14,999	BRIDGEND	1,779	Loughor	1,099

Cardiff, Swansea, and Merthyr-Tydvil are parliamentary boroughs, returning one member each, conjointly with seven contributory boroughs. Of the latter, Cowbridge and Llantrissant are contributory boroughs to Cardiff: Loughor, Neath, Aberafon, and Kenfig,† to Swansea: and Aberdare, to Merthyr-Tydvil. The county returns two members.

Cardiff, the county-town of Glamorgan, stands on the left bank of the river Taff, a short distance above its entrance into the estuary formed by the outlet of the river. The river Ely enters the western side of the same estuary, which constitutes the harbour of Cardiff. The construction, within a recent period, of extensive docks, immediately adjoining the outlet of the Taff, and communicating with the town by a ship-canal, has improved the natural advantages of Cardiff as a place of shipment. By means of the Taff Valley railway and the Glamorganshire canal—both of them running, throughout, nearly beside the course of the river, and communicating with the great

* Prior to the time of Henry VIII., the tract between the Usk and Tawe rivers was divided into six cantreps, and these again into twenty-two comots.

† Kenfig, though ranking as a borough, is a mere village. It lies midway between the mouths of the Ogmore and Afon rivers, and about two miles distant from the coast. It was formerly a place of more importance than at present.

mineral field in the neighbourhood of Merthyr and Aberdare — Cardiff forms the chief outlet for the produce of a thickly-populated and busy district. It is to this that its rapid increase in size within recent years is due. The town itself is of early origin. Its ancient castle — of Anglo-Norman date, and of which portions yet remain — was the scene of many events of historic interest, amongst them the long confinement of Robert, Duke of Normandy, the eldest son of the Conqueror.* *Llandaff*, two miles to the N.W. of Cardiff, on the right bank of the Taff, is merely a village in point of size, though ranking as an episcopal city.† *Caepphilly*, about six miles N. of Llandaff, near the right bank of the river Rumney, possesses one of the most extensive of the many ruins of Anglo-Norman castles found within this part of the principality.

The town of *Llantrissant* is ten miles to the N.W. of Cardiff, on the brow of a hill (part of an extended range or terrace forming the lower slope of the Glamorganshire mountains) which overlooks the fertile vale of Glamorgan. *Cowbridge*, on the river Thaw, is within the latter tract; as also, farther to the west, is the town of *Bedgwnd*, on the stream of the Ogwr, or Ogmere.

Merthyr-Tydvil, the most considerable place in Wales, is situated near the north-east extremity of Glamorganshire, in the upper part of the valley of the Taff. The greater part of its population are engaged in mining and smelting, and the town owes its prosperity entirely to the mineral wealth of the adjacent district: in its immediate neighbourhood are some of the largest iron-works in the kingdom. Merthyr is a straggling and irregularly built place, great numbers of the houses being scattered about the valley and the sides of the adjacent hills. *Aberdare*, between three and four miles S.W. of Merthyr, in the tributary valley of the Cynon (which joins the Taff about seven miles below) has grown within a recent date from a mere village into a town of considerable size, and forms the centre of numerous coal and iron works.

Swansea, at the mouth of the river Tawe (on its west bank), is the chief place for the smelting of copper ores, brought for that purpose from Cornwall, as well as from the most distant parts of the globe. It has also brass-works and extensive potteries, besides considerable collieries, the produce of which is largely shipped. In its neighbourhood are numerous tram-roads and railways, constructed

* The tower in which the unhappy prisoner passed 28 years of his life is still standing. A modern edifice has replaced great portion of the ancient fortress.

† About two miles westward of Llandaff is St. Fagans, referred to in a preceding chapter (p. 259).

in order to facilitate its communication with the various mineral works, and the South Wales railway gives it ready communication with the metropolis. Owing to the beauty of its situation and the mildness of its climate, Swansea has become a favourite watering-place. *Oystermouth*, a fishing-village and summer watering-place, is on the W. side of Swansea Bay, near the headland of the Mumbles. *Neath* (seven miles N.E. of Swansea, on a river of the same name) has copper, iron, and tin works in its neighbourhood, and carries on considerable trade. *Aberafon* (four miles south of Neath), at the mouth of the Afon or Avon, has also important tin and copper works. The rivers Tawe, Neath, and Avon, all flow into Swansea Bay. *Loughor* (or Llwehwr), seven miles N.W. of Swansea, is on the left bank of the Loughor river, immediately above its entrance into the estuary of the Burry.*

11. CAERMARTHENSHIRE, a maritime county, has an area of 606,331 acres, or 947 square miles. Its coast-line belongs to the outer portion of the Bristol Channel, and includes Caermarthen Bay and the northern side of the Burry estuary. With few exceptions, the shore is low. The river Loughor, on the east, divides Caermarthenshire from Glamorganshire: the river Usk, immediately below its source, marks for a few miles the boundary between Caermarthenshire and Brecknockshire. The Teify, on the north, divides the counties of Caermarthen and Cardigan. The western boundary, on the side of Pembroke, follows an irregular course, and does not coincide with any great natural feature.

Caermarthenshire has a diversified, and for the most part hilly surface. The only portion entitled to be called mountainous, however, is towards the extreme east, adjoining the Brecknockshire border, where the extended chain of the Black Mountain, or Forest Fawr, begins.† The peak entitled Y Fan Brechiniog — i. e. the Fan, or Beacon, of Brecknock,‡ immediately adjacent to the county border, reaches 2,596 feet. That portion of the county which is adjacent to this point is high and rugged, the mountains extending west to within two or three miles of the left bank of the river Towy.

* Loughor represents the Roman *Leucarum*. See *ante*, p. 91.

† See *ante*, p. 25.

‡ Such, at least, is the name given to it on the Ordnance Map. It appears, however, to be more generally known as the Caermarthenshire Beacon, by which name it may be best distinguished from the more elevated peaks which are called the Brecknockshire Beacons, situated twelve miles farther to the eastward, and nearly due S. of the town of Brecknock. See *ante*, p. 26.

The northern and north-westerly portions of Caermarthenshire exhibit a continuous range of high ground extending along the left side of the Teify, and dividing the valley of that river from the valleys of the Towy and its affluent, the Cothi. The elevation of this range is nowhere considerable, seldom exceeding 1,000 feet above the sea. The southern division of the county consists for the most part of open and well-watered valleys, which have a gradual inclination towards the river Towy and the waters of Caermarthen Bay.

The most considerable river of Caermarthenshire is the Towy, which has by much the larger portion of its course within the county, and flows in a south-westerly (and afterwards southwardly) course into Caermarthen Bay. The Towy is navigable up to the town of Caermarthen, nine miles above its mouth, for vessels of 300 tons' burden. Its chief affluent is the Cothi, which joins the Towy on its right bank, about midway between the towns of Llandeilo and Caermarthen.

Amongst the other rivers of Caermarthenshire are the Taf (or Tave), and two streams called the Gwendraeth*—the first-named to the westward of the Towy, the others to the east of that river. All three of them enter Caermarthen Bay, within a short distance of the mouth of the Towy. The Teify, on the northern border of the county, and the Loughor, on its eastern side, have been already mentioned.

Geology.—The south-eastern portion of Caermarthenshire (adjoining the county of Glamorgan, and lying between the courses of the Loughor and Gwendraeth-fawr rivers) includes part of the South Wales coal-field. Coal is worked at numerous places within this district, as also is the belt of limestone which adjoins the coal-measures to the north-westward. Old red sandstone, which underlies the carboniferous limestone, comes to the surface to the northward of the latter, and forms a belt which stretches across the length of the county, from the shore of Caermarthen Bay to the Brecknockshire border, passing into the last-named county. The old red sandstone is succeeded to the northward by Silurian strata, which occupy all the remaining and larger portion of the county. The limit between the old red sandstone and the Silurian deposits is marked by a line which crosses the valley of the Towy river some distance below the town of Caermarthen, and runs in a direction parallel to that river, at a distance of one or two miles from its left bank. Nearly the whole of the Towy valley, with all the remainder of the county to the northward, fall therefore within the Silurian area. Both

* Gwendraeth-fawr and Gwendraeth-fach, i. e. Great and Little Gwendraeth—a mode of apposition which is of frequent occurrence in the names of rivers, mountains, and other natural features of Wales.

the upper and lower members of the Silurian series are represented within the county, the latter including the well-known flagstones upon which the town of Llandeilo stands, besides a great variety of slaty and gritty deposits. Argillaceous slates, with coarse gritty sandstone, cover large portions of the Teify valley, upon either side. Ironstone is worked in several localities, and there are also lead-mines.

Caermarthenshire is chiefly an agricultural county. There are, however, some manufactures of copper, iron, and other metal wares, besides considerable coasting trade. The greatest extent of cultivated land is within the valley of the Towy. The north and north-west of the county are chiefly moorland.

Caermarthenshire is divided into 8 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
CAERMARTHEN	9,992	LLANDOVERY	1,927	LAUGHARNE	2,011
LLANDEILO	5,758	LLANELLY	8,710	NEWCASTLE-	
LLANGADOCK	2,820	KIDWELLY	1,648	EMLYN .	1,980

Caermarthen and Llanelly are parliamentary boroughs, jointly returning one member. The former is the principal, and Llanelly a contributory borough.* The county returns two members. Caermarthen is the county-town, and is also a county in itself.

The town of *Caermarthen* stands on the right bank of the Towy, nine miles above its mouth, in a situation which possesses many attractions. It has considerable trade, in the export both of agricultural and mineral produce. The line of the South Wales railway passes near the town.

Llandeilo (or, properly, *Llandeilo-fawr*), 14 miles E. by N. of Caermarthen, is on the right bank of the Towy, which there makes a bend to the westward, and flows through one of the most attractive portions of its valley, with wooded hills on either side.† The ancient castle of Dynevor, in the neighbourhood of Llandeilo, was the residence of the native princes of South Wales.

The towns of *Llangadock* and *Llandovery* are both within the valley of the Towy—the former 6 miles N.E. of Llandeilo, the latter

* Newcastle-Emlyn, on the Teify, forms part of the borough of Adpar (in Cardiganshire), one of the contributory boroughs associated with the town of Cardigan. See *ante*, p. 457.

† Grongar Hill, with its shady groves, celebrated by the muse of Dyer, is in the immediate vicinity of Llandeilo.

at nearly double that distance, in the same direction. Both places lie near the left bank of the river.

Llanelly lies near the northern shore of the Burry estuary, and on the line of the South Wales railway. It is within the area of the coal-field, and has considerable trade in connection with the coal and other mineral works of the district. A railway extends from the neighbourhood of Llanelly along the valley of the Loughor river, and thence to Llandeilo and other places in the valley of the Towy. There are also several mineral lines, which connect Llanelly with the quarries and other works in the adjacent portion of the county.

Kidwelly, 9 miles S. of Caermarthen, lies on the left bank of the Gwendraeth-fach, near its entrance into the estuary of the Gwendraeth-fawr, through which the waters of both streams reach the sea. It has the remains of an Anglo-Norman castle, still of imposing appearance.

Llanthorne, 9 miles S.W. of Caermarthen, is on the right bank of the Taf estuary. Its ancient castle, now a picturesque ruin, was the object of frequent contest during the wars between the Welsh and English. *Newcastle-Emlyn* is on the left bank of the Teify river, and on the Cardiganshire border.*

12. PEMBROKESHIRE, a maritime county, has an area of 401,691 acres, or 628 square miles. Its coast-line, which is of great extent, includes St. Bride's Bay and the magnificent estuary of Milford Haven, besides numerous smaller inlets. The south-eastern portion of the Pembrokeshire coast belongs to the shore of Caermarthen Bay.

Milford Haven forms one of the finest of natural harbours. From St. Anne's Head (at the western side of its entrance) it stretches inland, in a sinuous course, for nearly eighteen miles, with a breadth which gradually diminishes from two miles to about half a mile. It has deep water throughout, and affords perfectly safe and commodious shelter to shipping of the largest size. Numerous smaller and land-locked recesses branch off from the main body of the haven upon either side.

Amongst the numerous headlands that belong to the coast of Pembrokeshire, the most conspicuous are Giltar Point, St. Gowan's

* The former name of the town was Dinas Emlyn, the epithet of Newcastle being given in the time of Henry VII., when its older fortress was replaced by a new edifice, the ruins of which, situated within a peninsula formed by a bend of the Teify, are amongst the picturesque objects of like description that abound throughout South Wales.

Head, Linney Head, St. Anne's Head, St. David's Head, Strumble Head, Dinas Head, and Kemmaes Head (or Pen Cemmaes), the last-named at the entrance of the Teify river. The coast is generally high, excepting on part of the eastern shore of St. Bride's Bay, and within the upper portion of Milford Haven. The southern shore of the county, between Linney Head and St. Gowan's Head, and thence for some distance eastward, exhibits lofty and precipitous cliffs of carboniferous limestone, rising in some places to 150 feet in height, and enclosing numerous cavernous and water-worn recesses, against the base of which the waves beat in the wildest confusion.

Several islands lie off the coast of Pembrokeshire. The larger of them are Ramsey Island, to the northward, and Skomer and Skokholm Islands, to the southward, of St. Bride's Bay; with Caldy Island, on the south-eastern side of the county, at the entrance of Caermarthen Bay. These and the numerous smaller islets are bold and precipitous in aspect. They all contain cultivable land.

The surface of Pembrokeshire is in general of only moderate elevation. The highest ground in the county is in the north, where a range of hills called the Mynydd Preselley extends for several miles in an east and west direction, its highest summit reaching 1,754 feet. Elsewhere the country is generally undulating in aspect. The greatest extent of level ground is to the north-east and north of St. Bride's Bay.

Pembrokeshire has no large rivers. The two most considerable are the East Cleddy (or Cleddau) and the West Cleddy, both of which enter the upper extremity of Milford Haven. The Nevern and the Gwaen are small streams on the northern side of the county. The lower course of the Teify river divides the county from Cardiganshire.

The southwardly portion of Pembrokeshire belongs to the carboniferous formation, with Devonian strata adjoining its various members: the northern consists of Silurian deposits, through which masses of trap have been abrupted in numerous places. The line of division between these two areas stretches across the county between the shores of St. Bride's and Caermarthen Bays, following (from the former to the latter of those limits) a direction a little to the southward of east. The portion of Pembrokeshire lying south of this line forms part of the South Wales coal-field. The coal worked within this portion of the field is chiefly anthracite. Between St. Bride's Bay and Milford Haven, the coal measures rest immediately upon the Silurian strata, by which they are adjoined to the northward; east of Milford Haven, towards Caermarthen Bay, they

are bordered on either hand by a belt of millstone-grit, succeeded by carboniferous limestone. Old red sandstone appears to the south of the last-named rock, and, alternately with it, fills up that peninsular portion of the county which lies south of Milford Haven. The northern shore of Milford Haven is composed entirely of old red sandstone. Slate is quarried in the Preselley Mountains, which are within the Silurian area.

Pembrokeshire is chiefly an agricultural county. Within its southern division the soil is generally fertile, and this portion of the county enjoys many advantages of climate, its winter temperature being high. The slaty area, farther north, is colder and less fertile. There are no manufactures of importance. The coal mines employ a considerable number of persons, and their produce forms an important item in the shipping trade of the county.

Pembrokeshire is divided into 7 hundreds. Its towns are:—

	Pop.		Pop.		Pop.
HAVERFORD		PEMBROKE	15,051	NEWPORT	1,716
WEST	6,580	Wiston	774	FISHGUARD	1,757
MILFORD	2,837	NARBERTH	1,392	ST. DAVID'S	2,460
		TENBY	2,982		

The towns of Pembroke and Haverford West are parliamentary boroughs, returning one member each. With Pembroke are conjoined the contributory boroughs of Tenby, Milford, and Wiston; * with Haverford West, the contributory boroughs of St. David's, Fishguard, and Narberth. The county returns one member. Haverford West is the county-town.

Haverford West lies on the banks of the West Cleddy river, a few miles above the head of Milford Haven. Vessels of 100 tons' burden ascend to the town, which enjoys considerable trade, promoted by the construction of the South Wales railway, upon which it lies. A portion of the castle which the town formerly possessed has been converted to modern use as a jail. The railway connects Haverford West with the town of *Milford*, situated on the northern shore of the magnificent haven to which it gives name. *Milford* has some shipping trade, for which its position is well adapted.†

* Wiston, a small place situated 10 miles to the N. of Pembroke (and about half that distance E. by N. of Haverford West), is a mere village.

† The dockyard and other naval establishments, now in the vicinity of Pembroke, were formerly at Milford, their removal from which place, in 1814, to their present locality, took away much of the importance which Milford had for a time enjoyed.

The town of *Pembroke* lies at the head of a navigable creek belonging to the southern shore of Milford Haven. Its ancient castle, which occupies the highest point of a bold promontory at the western extremity of the town, belongs to the early period of Anglo-Norman invasion of the principality, and has played an important part in history.* The dockyard and other establishments belonging to Pembroke are situated at Pater, about a mile and a half to the N.W. of the town, and on the shore of Milford Haven. *Tenby*, on the S.E. coast of Pembrokeshire, and on the western shore of Caermarthen Bay, has acquired importance within recent years as a summer watering-place. It has besides extensive fisheries. The town is of early origin, and was originally peopled in great measure by the Flemish colonists introduced during the reign of Henry I. Both *Newport* and *Fishguard* are on the northern side of the county—the former at the outlet of the Nevern river, the latter at the mouth of the Gwaen.

St. David's, an episcopal city in rank, though a mere village in point of size, lies near the western extremity of the county, a short distance from the N. shore of St. Bride's Bay. Its cathedral, which has undergone restoration within a recent period, constitutes its most attractive feature. Adjacent to the town are the extensive ruins of the former episcopal palace of the bishops of St. David (long transferred to Abergwilli, near Caermarthen).†

ISLE OF MAN. The Isle of Man lies within the broader portion of the Irish Sea, nearly midway between the shores of England and Ireland, but making nearer approach to the Scotch coast.‡ The general features of the island have been already described.§ Its

* In 1648, Pembroke Castle sustained a protracted siege at the hands of Cromwell, to whom it at length surrendered a few weeks prior to the date of the battle of Preston, in Lancashire. (See *ante*, p. 259.) Henry VII. was born in Pembroke Castle.

† St. David's was one of the earliest seats of Christianity in Britain, its prelates enjoying arch-episcopal rank, which they continued to hold down to the time of Henry I. It occupies the site of the Roman *Menapia*.

‡ The direct distance between the northern extremity of the Isle of Man and Burrow Head, on the coast of Wigtownshire, is only 18 miles. St. Bees Head, in Cumberland, the nearest point of the English coast, is 30 miles distant. Between the western shore of the island and the coast of Down, in Ireland, is a distance of 33 miles. The northern shore of Anglesey is 45 miles, in direct measure, from the southern extremity of Man. All the different portions of the British Islands—England, Wales, Scotland, Ireland—can be seen, in clear weather, from the hills of the island.

§ See *ante*, p. 43.

highest elevation, in the centre of the island, reaches upwards of two thousand feet above the sea. The interior is generally hilly, but a belt of lowland extends round the coast, and the extreme north of the island is low.

The Isle of Man is rich in mineral productions. The rocks which form the basis of the island are chiefly clay-slate and greywacke, of the Silurian period. The low tract in the north is of tertiary date. The mines produce copper, lead, zinc, and iron, some silver being obtained with the lead. Quarries of black marble, and limestone flags, are extensively worked. Of the total area of the island, about 140 square miles are fit for tillage, the remainder consisting of hill, common, and waste land. The Calf of Man is a small rocky island off the south-west extremity of the larger island; some sheep are reared and turnips grown on its surface.

The population of the island amounted, in 1861, to 52,252. A large proportion of the people are engaged either in the mines, or in the herring-fishery, which is extensively pursued round the coasts. The cod and ling fisheries are also pursued. About half the agricultural produce of the island consists of oats,—the remainder chiefly of wheat and barley, in equal proportions. The climate is mild, and the quantity of rain that falls is considerable. Grazing is carried on upon the hills: the horses (or ponies), the oxen, and the sheep, are all of small size, but hardy. The wool of the sheep is worked into stockings.

The island is divided into six *shoadings*, which comprise seventeen parishes. It is the seat of an episcopal see, called the bishopric of Sodor* and Man.

The towns contained in the Isle of Man are Douglas, Castletown, Peel, and Ramsey. The largest of them is *Douglas*, on the east coast, which has 9,880 inhabitants. *Castletown* is the seat of

* The origin of the term "Sodor" has been a subject of controversy. The following explanation, however, is generally accepted as satisfactory. At one period the kings of Man were also sovereigns of the Southern Hebrides, the title which they claimed becoming in consequence that of "King of Man and the Isles." At the same period, the ancient diocese of "the Isles" (that is, of the Southern Hebrides) was annexed to that of the Isle of Man. The Northern Hebrides were formerly called "Norderoys," and the southern islands, "Sonderoys," or "Soderoys:" hence the title "Sodor;" the bishop of the united diocese being styled "Bishop of Sodor and Man." In process of time the Southern Isles became separated from the sovereignty of the kings of Man, and from the jurisdiction of the bishops of Man, but, notwithstanding, the titles derived by both bishop and king from the Isles were retained. Until a comparatively recent period, the sovereign of Man was entitled "Lord of Man and the Isles."

its local legislature, and ranks as the capital of the island. King William's College, an educational institution of some importance, opened in 1833, is in the neighbourhood of Castletown. *Ramsey* is on the east side of the island, 13 miles to the northward of Douglas. *Peel* is on the western coast-line, 10 miles W.N.W. of Douglas.

The majority of the inhabitants of the Isle of Man are of different origin from the Anglo-Saxon population of Britain, and constitute a distinct nation, called the Manx, which has a close affinity with the Celtic population of Ireland. The native language of the island is the Manx tongue, which is gradually becoming disused, and the English taking its place.

The island was early conquered by the Northmen, or warriors of Scandinavia, and remained for a long time subject to their rule, constituting, however, a separate kingdom. In the thirteenth century, Magnus, king of Norway, sold the kingdom of Man to Alexander III. of Scotland. Soon afterwards it was taken by the English, and in 1307 the Earl of Cornwall became its sovereign. It passed subsequently into the possession of the Stanleys, Earls of Derby, and was held by that family until the last century. They had, however, long given up the title of king. Thence it passed into the family of the Murrays, dukes of Athol, who have by successive treaties disposed of their sovereign rights over the island in favour of the royal family of Britain. The Isle of Man, however, though under the imperial jurisdiction, is still nominally a distinct kingdom, and has its own laws, courts of law, and law officers. Its government is administered by a lieutenant-governor, appointed by the crown. The local legislature is a body termed the House of Keys, which consists of twenty-four of the chief landowners. The supreme court of justice is known as the Tynwald Court.

CHAPTER XV.

PHYSICAL GEOGRAPHY OF SCOTLAND.

AREA, COAST-LINE, ETC. — Scotland is the northwardly portion of Great Britain. It is bounded on the north and west by the Atlantic Ocean, on the east by the North Sea, on the south by England and part of the Irish Sea. The lower course of the Tweed, the Cheviot Hills, and the Solway Firth, mark in modern geography the limits between Scotland and England.

The figure of Scotland is exceedingly irregular. Its greatest dimensions are north and south, in which direction it measures about 270 miles. Its breadth is greater both in the southward and middle divisions of the country than farther north. Its dimensions in the direction of east and west are lessened by the firths and narrow salt-water estuaries (lochs) which indent the coast, and penetrate far into the body of the land. Between the opposite shores of the Firths of Forth and Clyde (nearly under the 56th parallel) the land is less than forty miles across from sea to sea; but its extreme dimensions east and west are more than three times that measure. Between the line of the Forth and Clyde and the parallel of the Moray Firth, the breadth of the Scotch mainland varies from 100 to upwards of 130 miles. This becomes reduced, northward of the Moray Firth, to an average of between forty and fifty miles.

The most northwardly point of the mainland of Scotland is Dunnet Head, in the county of Caithness: the most southward is the Mull of Galloway, in Wigtonshire. A straight line drawn between those points measures

SCOTLAND

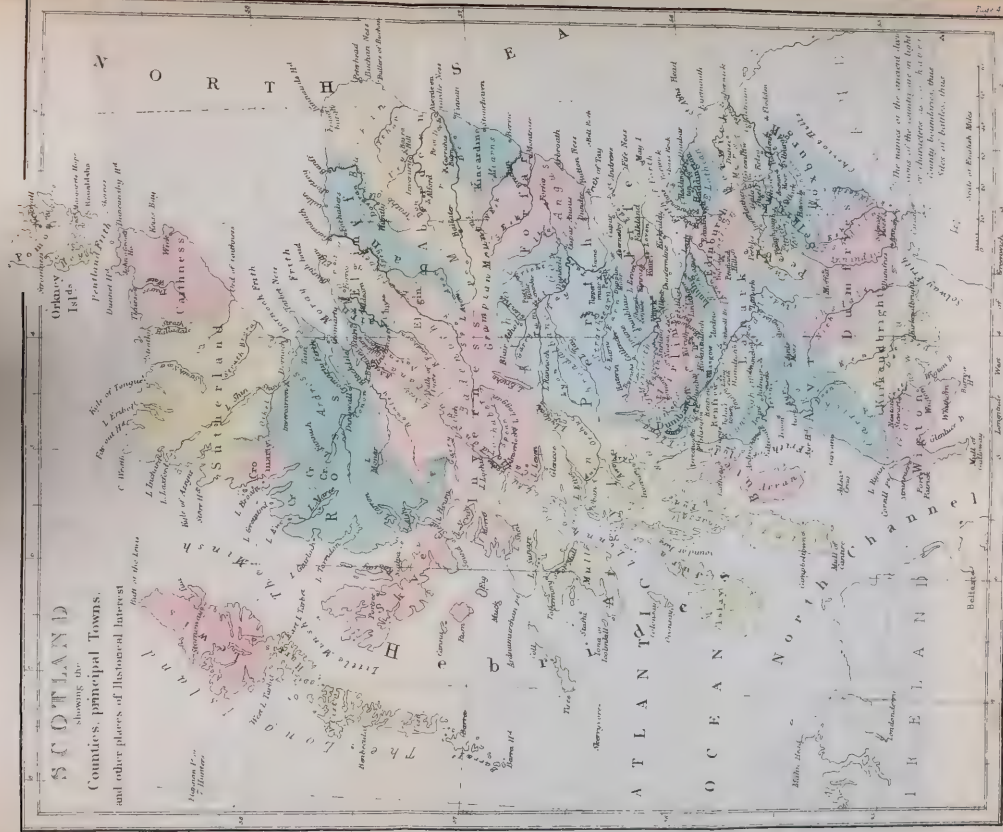
showing the

Countries, principal Towns,

and other places of historical interest

Highland F.-
7. Hibernia

South of the Tames



288 miles. The most eastwardly point is Buchan Ness, in Aberdeenshire: the most westwardly is the point of Ardnamurchan, in the county of Argyle.

The superficial area of the Scotch mainland is reckoned at about 26,000 square miles. Its numerous islands are estimated to have a total of about 4,000 square miles. Adding these figures, the total area of Scotland amounts, in round numbers, to 30,000 square miles, or 7,770,000 hectares.

The coast line of Scotland, especially on its western side, is much more irregular than that of South Britain, and has hence a greater linear developement. Including all its salt-water inlets and estuaries, the length of coast belonging to the Scotch mainland is probably not less than 2,500 miles. No part of the interior is distant so much as fifty miles from the sea in a direct line, and few parts are anything like so far.

The principal inlets of the Scotch coast are:—

On the east side (from south to north).

- | | |
|-------------------|-------------------|
| 1. Firth of Forth | 4. Loch Beauley |
| 2. Firth of Tay | 5. Cromarty Firth |
| 3. Moray Firth | 6. Keiss Bay. |

Both Loch Beauley and the Firth of Cromarty are extensions of the upper portion of the Moray Firth.

On the north coast (from east to west).

- | | |
|--------------------|---------------------|
| 1. Dunnet Bay | 3. Loch Eribol |
| 2. Kyle* of Tongue | 4. Kyle of Durness. |

On the west coast (from north to south).

- | | |
|---------------------|----------------------------|
| 1. Edderachylis Bay | 11. Loch Linnhe |
| 2. Enard Bay | 12. Loch Eil |
| 3. Loch Broom | 13. Loch Leven |
| 4. Loch Ewe | 14. Loch Etive |
| 5. Loch Torridon | 15. Loch Fyne |
| 6. Loch Carron | 16. Firth of Clyde |
| 7. Loch Alsh | 17. Loch Ryan |
| 8. Loch Hourne | 18. Luce (or Glenluce) Bay |
| 9. Loch Nevis | 19. Wigton Bay |
| 10. Loch Sunart | 20. Solway Firth. |

* Kyle, a term signifying a narrow channel or strait (caolas: *Gaelic*).

To the above enumeration of Scotch estuaries there require to be added the numerous firths and channels which divide its different islands, either from the mainland or from one another. Among the principal of these are:—

Pentland Firth,	between	Orkney Islands	and	N. coast of mainland
The Minsh	„	Hebrides	„	W. ditto
Little Minsh	„	Ditto	„	I. of Skye
Sound of Sleat	„	Skye	„	W. coast of mainland
Sound of Mull	„	I. of Mull	„	W. ditto
Sound of Jura	„	I. of Jura	„	W. ditto
Sound of Islay	„	Ditto	„	Islay
Kyles of Bute	„	Bute	„	Coast of Argyle.

The coasts of Scotland are for the most part bolder than those of South Britain; the headlands rise more abruptly above the water, and reach a superior altitude. This is especially the case upon the western coast, from Cape Wrath (the N.W. extremity of the mainland) southward to Loch Linnhe; and eastward from the same promontory towards Dunnet Head, upon the north side of the island. To the south of Loch Linnhe, round the peninsula of Cantire and the Firth of Clyde, the shores are generally low, and also between the Mull of Galloway and the head of the Solway Firth.

On the eastern side, the coast from Tarbet Ness, round the Murray Firth, to the high promontory of Buchan Ness, and thence southward to the mouth of the Dee, is generally low and sandy, excepting in some portions of small extent. In a part of this tract extending on both sides of the river Findhorn there are loose and shifting sands, which, combined with the action of the tide, have caused considerable changes in the line of coast. South of the river Dee, cliffs line a great part of the coast as far as the town of Arbroath (lat. $56^{\circ} 33'$). Thence round the Firth of Tay, the peninsula of Fife, and the Firth of Forth, the coast is generally flat, though the hills in some places approach very near the shore. A few miles before reaching St. Abbs Head, however, the coast again becomes high and rocky, and continues so thence to the mouth of the Tweed.

The long and narrow peninsula of Cantire* forms one of the most striking features of the western coast-line. It stretches upwards of forty miles in the direction of its length, but is nowhere more than eight miles across, and is contracted at its northern extremity (where the head waters of East and West Loch Tarbet make their nearest approach) to less than half a mile.

The narrow inlets of the Scotch coast bear close analogy to the fiords of the Norwegian shore, and, like them, are intimately connected with the geological conformation and physical aspect of the region to which they belong. The western coast of Scotland, within the highland region, exhibits a vast mountain-wall, the occasional depressions in which are filled by the waters of the adjacent ocean. The sea thus penetrates far into the interior, in some instances to upwards of thirty miles from the open waters. With few exceptions, the lochs of the western coast are throughout of this description. The bold and variously-indented shores of these lochs, protected from the open ocean, afford shelter to men and cattle against the fury of the Atlantic storms, and alone render this portion of the coast habitable.

CAPES.—Of the almost countless headlands which belong to the Scotch coasts, the following are among the most important:—

On the east coast (south to north).

	Height		Height
St. Abbs Head (Berwick)	224 feet	Kinnaird Head (Aberdeen)	120 feet
Fife Ness (Fife)		Burgh Head (Elgin)	
Button Ness (Forfar)		Tarbet Ness (Ross)	175 feet
Red Head (Forfar)	255 feet	Ord of Caithness (Caithness)	
Girdle Ness (Kincardine)	115 feet	Noss Head (Caithness)	
Buchan Ness (Aberdeen)	130 feet		

On the north coast (east to west).

	Height		Height
Duncansby Head (Caithness)	153 feet	Whiten Head (Sutherland)	517 ft.
Dunnet Head (do.)	346 feet	Far-out Head (do.)	330 feet
		Cape Wrath (do.)	400 feet

* That is, Ceantire — the “Land’s End.” (*Gaelic.*)

On the west coast (north to south).

	Height		Height
Storr Head (Sutherland)		Corsill, or Corsewall,	
Ardnamurchan Point		Point (Wigton)	
(Argyle)	180 feet	Mull of Galloway (do.)	325 feet
Mull of Cantire (Argyle)	297 feet	Burrow Head (do.)	

SURFACE OF LAND. — Mountains and high moorlands constitute by far the larger portion of Scotland, the surface of which is uniformly bolder, and in great measure of more rugged aspect, than is the case with South Britain.

The ancient and native division of Scotland is into the Highlands and the Lowlands. This does not correspond, in all cases, to the political divisions of the country, for several of the Scotch counties fall in part within the highland, and in part within the lowland, region. Still less do the terms Highland and Lowland express, in every case, the actual features of the tracts of country to which they are respectively applied. Many portions of the Lowlands are distinguished by strikingly bold features of surface, and portions of the Highlands, in the neighbourhood of the eastern coasts, are relatively lower than the mountainous parts of the so-called Lowland region. The distinction between Highland and Lowland Scotland, however, is fully justified by the contrasted aspects which belong, in a general sense, to the two regions so distinguished. It is, moreover, a distinction that is indelibly stamped upon the history of the country, as well as upon the land itself, and hence may with propriety be followed in sketching the chief features of its physical geography.

Speaking generally, the *Highlands* include the northern and western portions of Scotland: the *Lowlands*, its southern and eastern portions. The great natural division between the two regions is formed by a broad valley, or plain, which, with little interruption, extends across the country diagonally, in the direction of N.E. and S.W., from the shores of the North Sea to the estuary of the Clyde, below Dumbarton. This valley is known, within great part of its extent, as Strathmore, or the "great strath," and that

appellation may, for the sake of geographical description, be extended to it throughout.* The region lying north and west of Strathmore constitutes the Highlands: all those portions of Scotland that lie east and south of Strathmore belong to the Lowlands.

THE LOWLANDS.—1. What is called Lowland Scotland is by no means a level or low region. On the contrary, the Scotch lowlands embrace many elevated tracts of country, a great portion of them more or less covered with hills, some of which rise to considerable height. But the hills are of more rounded form, the valleys which divide them of greater breadth, and the adjoining plains of larger proportions, than is the case within the highland region.†

The Lowlands are divided into two portions—Northern and Southern—by a plain which extends between the firths of Clyde and Forth, upon opposite sides of the island. This plain is itself a remarkable feature in the physical geography of Scotland. Its higher portions are little more than two hundred feet above the level of the sea, and most parts of it are very considerably below that elevation. The country which extends thence to the borders of England belongs naturally to the same physical region as the northern portion of that country. It consists chiefly of upland plains, upon which there rise hills of considerable height. The valleys of the rivers form depressions in the generally high and undulating surface of this region.

The principal mass of the highlands of southern Scotland lies in an east and west direction, and forms in its eastern portion the dividing chain of the Cheviot Hills. This elevated land separates the valleys of the Tweed and the Clyde from the Nith and other rivers of the Solway Firth. Its greatest elevation is attained towards the central portion of the whole region, around the upper valleys of the Clyde and the Tweed. The summit of Broad Law, about twelve miles south-west of the town of Peebles, is 2,741 feet above the sea.

* As a local designation, the name of Strathmore is limited to portions of the counties of Forfar and Perth.

† Throughout southern Scotland, the pastoral valleys that penetrate the higher grounds are distinguished by the term *dale*, as Tweeddale, Teviotdale, Clydesdale, &c. The narrow valleys that intersect the highland region are uniformly distinguished as *glens*, as Glenmore, Glengarry, Glenshee, &c. The word *dale*, equivalent to the Scandinavian *daal* and the German *thal*, recalls the memory of the early settlements of the Northmen within that region (see *ante*, chap. v.). The word *strath*, applied to some valleys within the Highland border, is Celtic, and has its equivalent in the *ystrad* of the Welsh branch of the Celtic family. Within the region of Highland glens and rugged mountains, the Celtic population has maintained its place to the present day.

The high lands here, and around upper Clydesdale, spread out for many miles north and south, and consist of barren, bleak, and rounded masses, which present to appearance a confused heap of rugged mountain tops. Several high summits occur along the principal line of watershed, at the head of the tributary valleys which belong to the Tweed basin. Hart Fell, at the head of Tweedale, is 2,635 feet above the sea. Ettrick Pen, farther to the eastward, 2,258 feet. Queensbury Hill, near the source of the Clyde, is 2,259 feet, and the highest point of Tinto Hill (farther to the northward, in the angle between the Clyde and its tributary the Douglas), 2,308 feet. The village of Leadhills, near the borders of Lanark and Dumfries, and on the west side of upper Clydesdale, is 1,280 feet above the sea, and is said to be the highest inhabited place in Britain.

West and south-west of the line of watershed, an elevated region, of irregular surface, reaches nearly to the shores of the Irish Sea and the North Channel. No continuous mountain ridge can be traced, but numerous high masses occur. Among the latter are Black Larg (at the point of junction of the three counties of Ayr, Dumfries, and Kirkeudbright), 1,950 feet; Cairnsmoor (south-west of the preceding, and to the east of Loch Doon), 2,597 feet; and Larg Fell (in the south-west part of Kirkeudbright), 1,758 feet. Criffell, near the outlet of the Nith, is 1,830 feet.

The high ground which divides the upper valleys of the Clyde and Tweed is connected with the range of the Pentland Hills, which extend from the neighbourhood of Edinburgh in a general south-west direction. The highest of the Pentland Hills is 1,860 feet above the sea: Arthur's Seat, adjacent to Edinburgh, is 822 feet, and the rock upon which Edinburgh Castle is built, 434 feet.

From the southern part of the Pentland Hills, a range of high land runs eastward to the coast at St. Abbs Head, and separates the basin of the middle and lower Tweed from the valley of the Tyne (of Haddington). The western portion of this range is called the Muirfoot Hills—the eastern and wider portion, the Lammermuir Hills. The highest of the Muirfoot Hills is 2,193 feet; in the Lammermuir, Meikle Says Law, the highest summit, is 1,750 feet, and several others are of nearly equal elevation. The highest parts of the Lammermuir are chiefly moss or moor land.

The principal *plains* in this portion of Scotland, besides that which stretches between the estuaries of the Clyde and Forth, are the lower portion of Clydesdale,—the plain of Ayrshire, which forms a kind of amphitheatre, enclosed by hills on three sides,—the narrow plain along the shores of the Solway Firth,—the lower part of the valley of the Tweed,—and the valley of the small river Tyne (of Haddington). Among the pastoral valleys which penetrate the

mountain region are Tweeddale, Teviotdale, and Lauderdale, belonging to the basin of the Tweed,—and Liddisdale, Eskdale, Annandale, and Nithsdale, sloping towards the Solway Firth.

2. The more northwardly division of the Lowland region extends along the eastern side of Scotland, from the Firth of Forth northwards. It includes Strathmore, and also two hilly regions which intervene between Strathmore and the waters of the North Sea. These tracts of high ground are the Ochill Hills and the Sidlaw Hills—the former between the Firths of Forth and Tay, the latter to the northward of the Firth of Tay.

Strathmore—"the great strath"—extends without interruption from the immediate neighbourhood of Stonehaven (on the coast of Kincardine), in the direction of south-west, to the banks of the Forth, above Stirling, a total length of nearly ninety miles. Its breadth varies from 16 miles in its widest part (along the course of the Forth) to less than a mile at its northern extremity, where it is terminated by the close approach of the Grampian range to the waters of the North Sea. Strathmore exhibits the most continuous extent of level and cultivable land in Scotland. Throughout its length there is scarcely any eminence to obstruct the view. The greater portion of this plain is under cultivation. A low range of heights, called the Campsie Fells, intervenes between the valley of the Forth, in the neighbourhood of Stirling, and that of the Clyde, about Dumbarton. Their highest elevations are 1,500 feet.

The *Sidlaw Hills* commence in the neighbourhood of Perth, and extend thence in a north-east direction; their highest elevations are about 1,400 feet. They terminate by a rapid declivity on the side of Strathmore, but descend by a succession of terraces towards the North Sea. South of the Sidlaw Hills, along the Firth of Tay, is the Carse of Gowrie, one of the most fertile tracts in Scotland.

The *Ochill Hills*, with their offsets and outlying branches, occupy the greater part of the peninsula of Fife, and exhibit some masses of considerable elevation. Ben Cleuch (5 miles north by east of Alloa) is 2,352 feet above the sea, and the highest of the Lomond Hills, to the north-east of Loch Leven, 1,713 feet. The hills in general leave a narrow belt of lowland round the shores of the peninsula.

THE HIGHLANDS.—The Highlands comprehend the widest portion of Scotland, stretching (under the line of the 57th parallel) across the whole breadth of the country, from the North Sea on one side to the Atlantic Ocean on the other. The greater part of this extensive mass of high ground is filled by the Grampians and their connected heights. A deep and narrow valley divides the highland region into

two portions: this valley is called *Glen-more*, or the great glen. The general direction of Glenmore is from north-east to south-west; it extends entirely across Scotland, from the head of the Moray Firth to Loch Linnhe, and furnishes (in part by artificial means) a water-communication between the opposite shores of the island.

Glenmore forms the most marked and singular feature in the physical conformation of Britain. Its entire length, from Fort George at the head of the Murray Firth, on the north-east, to the entrance of Loch Linnhe, on the south-west, is about 100 miles. The north-eastern extremity of the glen is occupied by the waters of Loch Beauley and the strait which unites it to the Murray Firth; its south-western extremity by Loch Linnhe, and its northward prolongation, Loch Eil. In the middle portion of the glen are three long and narrow lakes, Loch Ness, Loch Oich, and Loch Lochie: the largest of these is Loch Ness, which discharges itself by the river Ness into the Beauley Loch. The Caledonian Canal connects all these lakes by navigable channels.

The extensive tract of country which stretches between Glenmore and Strathmore includes by far the larger portion of the highlands. More than three-fourths of this area constitute a high mountain-region, a large portion of which is upwards of a thousand feet above the sea. Upon this elevated base rise the highest mountains in the British Islands.

The Grampian Mountains measure nearly 100 miles in length, from east to west, and their higher summits have an average elevation of from 2,000 to 3,000 feet above the sea. At the western extremity of the chain, near the shores of Loch Linnhe, is Ben Nevis, a huge mass, the summit of which rises to 4,406 feet above the sea: this is the highest mountain in Scotland, and the culminating point of the British Islands. The Cairngorm Mountains, an outlying group of the Grampian system (situated to the northward of the main range, near the head of the valley of the Dee), contain some summits which are little inferior in altitude; Ben Mac Dhui, in this group, is 4,295 feet above the sea-level, and the top of Cairngorm exceeds 4,000 feet in height.*

Upon the north side of the Grampians is a high and mountainous tract which extends nearly to the shores of the North Sea and the

* The Grampians do not rise to the height of perpetual congelation (which in their latitude would be about 150 feet above the elevation of their highest summits). But in the dark recesses of the Cairngorm group the snow sometimes remains all the year round, and the surface of Loch Avon — a small lake situated in the heart of this high and desolate region, at an elevation of 1,750 feet, and overhung by the precipitous sides of the mountains — has no sunshine for several of the winter months.

Moray Firth — diminishing, however, in elevation as it approaches the coast, near which the valleys of the rivers (or *straths*) widen out into plains of limited extent. The high ground which extends immediately to the north of the Cairngorm group, along the eastern side of Strath Spey, is distinguished as the Braes of Abernethy, a large portion of which is covered with magnificent pine forests. On the west side of the Spey is a continuous range (not, however, connected with the central chain) called the Monadh Leadh Mountains, the higher portions of which are about 2,000 feet above the sea.

From Ben Nevis, a succession of high mountain-masses extend southward to the shores of the Firth of Clyde: these are sometimes distinguished as the Southern Grampians. They do not form any continuous range, but contain huge masses of great extent and considerable height. Amongst them is Ben Cruachan (near the northern extremity of Loch Awe), which is 20 miles in circumference and 3,670 feet in elevation. High mountains line the western side of Loch Long, and extend through the peninsula between that lake and Loch Fyne, down to the shores of the narrow channel which separates the island of Bute from the mainland.

The country to the east of this southward extension of the Grampians, and to the south of the principal chain, contains numerous high summits — among which are Ben Lomond (on the east side of the lake of that name), 3,191 feet — Ben More (on the south of Loch Dochart, in the south-west extremity of Perthshire), 3,818 feet — Ben Lawers (on the west side of Loch Tay), 3,984 feet — and Schehallion (north-east of the latter-named mountain), 3,533 feet above the sea.

A large portion of the mountain region above described consists of high and naked moors, lying at an elevation of probably not less than 1,000 feet above the sea. One of the most extensive of such tracts is the Moor of Rannoch, which stretches to the west and south of the loch of that name, and the surface of which presents an open and nearly level plain, covered by an immense bog, which produces no vegetation of any kind, except on the immediate banks of Loch Lydoch, round which are a few fir-trees. To the north of this desolate region is a tract of equally sterile character, lying between Ben Nevis and the shores of Loch Eriicht, and which exhibits nothing but bare rocks, interspersed with numerous bogs.

The mountains on either side of Glenmore rise with a steep and rugged ascent to a considerable height, averaging upwards of 1,000 feet in the neighbourhood of Loch Ness. On the western side of this lake is Mealfourvouny, 2,730 feet above the sea.

The portion of Scotland which lies to the west and north-west of Glenmore consists chiefly of an elevated table-land, which in its

central part is about 1,000 feet above the sea-level, and in some portions probably not less than 1,500 feet. Ben Wyvis, to the west of Cromarty Firth, rises to the height of 3,422 feet: Ben Attow (on the borders of Ross and Inverness, to the eastward of Loch Alsh) is about 4,000 feet high. Many other summits in this portion of Scotland are between 2,000 and 3,000 feet in elevation. The higher mountain-masses lie in general nearer the western than the eastern coasts, and terminate abruptly on the shores of the Atlantic.

This mountainous tract (which may be appropriately distinguished as the Northern Highlands), although it does not attain the great elevation of the Grampians, yet exhibits in some parts a character of greater wildness and rocky desolation than any other part of Scotland. Nearly the whole region is, in fact, a naked and barren mountain wilderness, alternating between high mountains and tracts of open moorland, covered with heath and bog.

The level districts of Northern Scotland probably do not occupy more than a twentieth part of its entire surface. They extend at intervals, along the eastern coast, from the shores of Loch Beauley and the Moray Firth to the northern extremity of the island, in the neighbourhood of the two capes of Duncansby and Dunnet Head, and form two principal plains—those of Cromarty and Caithness, the latter of which is of the larger extent. The *Plain of Cromarty* extends along both sides of the firth of that name, and thence across to the Firth of Dornoch: it contains some fertile and well-cultivated tracts.

The *Plain of Caithness* comprehends about four-fifths of the county of that name, embracing however some moorland tracts, elevated from 200 to 300 feet above the sea.

ISLANDS.—The islands of Scotland arrange themselves into four divisions—1. The islands in the Firth of Clyde. 2. The Hebrides. 3. The Orkney Islands. 4. The Shetland Islands. The northernmost of these groups, the Shetland Islands, extends to the parallel of $60^{\circ} 49'$, and forms the most outlying portion of the British Archipelago in that direction:—the island of St. Kilda, the most western of the Hebrides, is under the meridian of $8^{\circ} 37' W$.

It is estimated that the Shetland Islands occupy an area of above 530 square miles, the Orkneys 400, the Hebrides 2,585, and the islands in the Firth of Clyde 171 square miles; making a total of about 3,700 square miles.

1. *Islands in the Firth of Clyde.*—These consist of the large islands of Bute and Arran, the islets of Great and Little Cumbray, and the rock of Ailsa. *Arran* measures 20 miles in length by 11 in breadth. It is a mass of heathy mountains, surrounded by a narrow belt of low-land: the mountains are highest towards the north, where Goat Fell, the loftiest summit, rises to 2,874 feet. Only a small portion of the land is cultivable.

Bute measures 15 miles in length by 5 in breadth. Its northern extremity is bleak and rugged, but the central and southern portions consist of undulating ground, fit either for tillage or pasturage.

The islands of *Great* and *Little Cumbray* lie at the entrance of the narrower portion of the Firth of Clyde, between the island of Bute and the mainland. Their surface is hilly and verdant, but bare.—*Ailsa Crag*, in the broad part of the Firth of Clyde, is an insulated hill, about two miles in circumference, and rising in precipitous cliffs to 1,140 feet above the sea. It is the resort of enormous numbers of sea-fowl.

2. The *Hebrides* or *Western Islands of Scotland* consist of two portions—those which lie adjacent to the mainland, as Jura, Islay, Mull, Skye, and others, distinguished as the *Inner Hebrides*—and those situated to the west of the channel of the Minsh, which form the *Outer Hebrides*.

The largest of the Inner Hebrides is *Skye* (535 square miles), which is covered with mountains, the highest above 3,000 feet in elevation. The cliffs on its south-west coast are 750 feet in height. Between the north part of Skye and the mainland are the islands of Rona, Raasay, Scalpa, and others: off its south-west side are Canna, Rum, Eig, and Muck—all mountainous. Farther to the south are Coll and Tiree, of less elevation. Eleven miles south-west of the last-mentioned island is the Skerryvore, a dangerous group of rocks, on which is a lighthouse.

Mull (330 square miles) is mountainous, and its highest summit, Ben More, rises to 3,185 feet. Off its south-west

coast is the little island of *Iona* or *Icolmkill*, celebrated for its ecclesiastical remains; and, a few miles farther north, the basaltic islet of *Staffa*, with its magnificent cavern.

Jura (130 square miles) and *Islay* (240 square miles) are separated by the Sound of Islay. In the former island the Paps of Jura rise to 2,568 feet in height. Islay, though hilly, is less elevated, and contains a larger proportion of cultivated land than any other of the Hebrides. Between Islay and Mull are the islands of *Colonsay* and *Oronsay* (together 18 square miles), the narrow channel between which is dry at low water, when they form one island.

The Outer Hebrides form a continuous group, of 140 miles in length, so close that they are commonly considered as one, and named the *Long Island*. The largest consists of two portions, *Lewis* (557 square miles) and *Harris* (191 square miles), united by a narrow isthmus. Farther south are the large islands of *North Uist* (118 square miles), *Benbecula* (43 square miles), and *South Uist* (127 square miles), besides an immense number of smaller islets. On the west side of Lewis the mountains reach above 1,700 feet in height, in Harris 2,660 feet. Mount Heval, in the island of North Uist, is 2,010 feet, and Ben More, in South Uist, 2,034 feet. Harris is generally mountainous, but a large portion of Lewis consists of moss and moorland. The most northern point of the Outer Hebrides is called the Butt of Lewis; to the south they terminate in the group of the Barra Islands, the most southward of which is the rock of Barra Head.

The island of *St. Kilda*, which lies 42 miles to the westward of the Long Island, is about 3 miles in length by 2 in breadth, and rises to 1,380 feet above the sea. Except at the landing-place on its south-west side, it is fenced round by inaccessible precipices. It has a few human inhabitants, and is the resort of immense numbers of sea-fowl. Still farther to the westward, at a distance of 180 miles from the nearest land, is the little islet of *Rockall*, which is uninhabited.

3. The *Orkney Islands*, divided from the mainland by the Pentland Firth, comprise Pomona (or Mainland), Hoy, North and South Ronaldsha, Westra, and many others, amounting altogether to 67 in number, only 27 of which are permanently inhabited, though many of the others serve as pasture-grounds. The surface of the islands is in general of only moderate elevation, and some of them are low and flat. The highest eminence in the group is Wart Hill, on the island of Hoy, which reaches 1,556 feet above the sea. The shores of Hoy are high and rocky on the west side, where they rise in steep precipices out of the sea. In general, however, the shores of these islands are low and sandy, with rounded hills towards the interior. The island of Sanda is throughout low, and is the most fertile of the group.

4. The *Shetland Islands* exceed 100 in number, of which between 30 and 40 are inhabited. The largest, Mainland, is 52 miles in length, and of very irregular shape. The next in size are Yell, Unst, Fetlar, Whalsay, and Bressay. Roeness Hill, in the north of Mainland, is 1,476 feet: the island of Foula, to the west of the principal group, 1,350 feet. About midway between the Orkney and Shetland groups is *Fair Island*, 708 feet high.

The surface of the Shetland group consists in general of heathy wastes, interspersed with rock, and sometimes varied by swamps and lakes. In some parts, however, the land is fertile, and produces good corn and herbage. The climate in both groups is moist, but remarkably equable in temperature. The winter, though long (especially in the more northwardly group), is not severe, and the harbours are open all the year round. In the Orkneys, frost rarely lasts more than a few days at a time. The Shetland Islands are more generally rugged, wet, and barren, than the other group. They are fenced, particularly on their western side, with high and precipitous cliffs, against which the ocean dashes with great fury, and which its waves have worn into the most various and fantastic forms.

There are a few detached islets off the eastern coasts of Scotland. These consist of the *Bass Rock* (on the south side of the entrance of the Firth of Forth), a mass of basalt, which rises perpendicularly to 400 feet above the sea; *May Island*, *Inchkeith*, *Inchcolm*, and others, all in the Firth of Forth; and the *Inch Cape*, or *Bell Rock* (14 miles east of the entrance to the Firth of Tay), the site of a celebrated lighthouse. At the eastern extremity of the Pentland Firth are some rocks called the *Pentland Skerries*.

RIVERS AND LAKES. — All the larger rivers of Scotland, with the exception of the Clyde and the Nith, discharge into the North Sea, upon the east side of the island. This, as similarly in the case of South Britain, results from the prevailing distribution of the high grounds, which lie nearer the western than the eastern coasts. The main chain of the Grampians, however, separates the drainage of the eastern coasts, within the highland region, into two distinct basins, giving to the one of them a south-eastern, and to the other a north-eastern, inclination. This is rendered obvious by inspection of the map. Within the highlands, the same cause which explains the numerous lochs of the western coast accounts for the absence of rivers from that region. The mountains rise at once out of the sea, with little intervening slope. On the opposite side of the same region, the descent towards the North Sea is gradual, and the valleys which open out in that direction form the basins of running streams.

The principal rivers on the *east* side of Scotland, from the English border northward, are — the Tweed, the Tyne (of Haddington), the Forth, the Leven, the Eden, the Tay, the North and South Esk, the Dee, the Don, the Ythan, the Ugie, the Doveran, the Spey, the Lossie, the Findhorn, the Nairn, and the Ness.

The principal rivers of the *western* and *south-western* coasts are — the Clyde, the Irvine, the Ayr, the Doon, the

Girvan, the Stinchar, the Cree, the Dee (Kirkcudbright), the Nith, the Annan, and another river Esk. The whole of these are within Lowland Scotland.

The *Tweed* has a length of 96 miles, and drains an area of 1,870 square miles. The tide ascends this river about 10 or 12 miles, but it is not navigable above Berwick. From its source to its mouth the Tweed has a fall of upwards of 1,500 feet: it is noted for its salmon fisheries, and, during certain seasons, is liable to considerable floods. The chief tributaries of the Tweed are the Ettrick (with its affluent, the Yarrow), the Teviot, and the Till (within the borders of England), on the right bank, — the Lyne, the Leithen, the Gala, the Lauder, and the Adder, on the left.

The *Forth* has a length of 60 miles from its source (on the skirts of Ben Lomond) to the neighbourhood of Alloa, where it unites with the firth to which it gives its name; throughout its whole course it winds very considerably: its basin is about 645 square miles. The Forth is navigable for small vessels up to Stirling; its estuary, which is about 50 miles long, forms a broad and deep channel, capable of receiving the largest vessels.

The *Tay* is the most considerable river of Scotland, both in regard to length of course and area of drainage. It has a course of about 100 miles from its source to the town of Perth, 7 miles below which it enters the Firth of Tay. The Tay drains an area of about 2,400 square miles, — more than one-eleventh part of the whole mainland of Scotland. Of its affluents, the principal are the Earn and the Almond, on its right bank, and the Lyon, the Tummel, and the Isla, on the left. The Tummel rivals the Tay in volume of water and extent of drainage above their junction, and (with its tributary, the Garry) brings down the water from an extensive system of lakes adjacent to the high district of Rannoch Moor.* The Tay is not navigable above Perth, which is also the limit of the tide-water.

The *Dee* has a length of 87 miles, and drains about 700 square miles. Its source is in the Cairngorm group of mountains, at a height of 4,060 feet above the sea. — a greater elevation than that of any other river in the British Islands: the declivity of its bed is hence very considerable, and its course, especially in its upper portion, is exceedingly rapid.

* The defile of Killiecrankie, where the Highland clans, under Viscount Dundee, gained a victory over the troops of William III. in 1689, is on the banks of the Garry, a short distance above its junction with the Tummel. The mountains approach so closely as to narrow the valley of the Garry, at this point, to the immediate bed of the stream.

The *Don*, about 50 miles in length, has a basin of 530 square miles: it is generally rather a slow river, though rising at an elevation of 1,640 feet. Neither the *Dee* nor the *Don* are navigable.

The *Spey* has a length of 96 miles, and drains an area of 1,190 square miles: its source, in a small pool called Loch Spey, is at an elevation of about 1,200 feet above the sea. Unlike most rivers, the lower portion of its course is the most rapid: in the upper part of its valley, the river slumbers in dark mossy lakes. The *Spey* is the wildest and most capricious of all the large British rivers, forming numerous rapids and falls, and its variations as to quantity of water are very considerable. It is not navigable.

The *Clyde*, 98 miles in length, drains about 1,580 square miles. Its source, 1,400 feet above the sea, is in the central part of the high lands of southern Scotland, and the upper part of its course is closely adjacent to some of the smaller tributaries of the *Tweed* basin. In the neighbourhood of Lanark, the *Clyde* forms three considerable falls, by which it descends 230 feet within a distance of less than 4 miles. It becomes navigable at Glasgow, which is also the limit of the tide-water. The principal tributaries of the *Clyde* are the *Douglas*, the *Avon*, and the *Cart*, on the left bank,—the *Medwin*, the *Calder*, and the *Kelvin*, on the right.

The *Nith* has a length of 60 miles, and drains about 460 square miles. The *Dee* (45 miles) forms in its middle portion a long narrow lake, called Loch Ken, 10 miles in length by from one-half to three-quarters of a mile in breadth. The *Esk* has the lowest part of its course within the English border. The *Annan* (45 miles), the *Esk*, and the *Eden* (an English river), unite in the broad expanse of sand which, at low water, forms the head of the *Solway Firth*.

LAKES.—The same term *loch* is used in Scotch geography to designate the fresh-water lakes of the interior, and the salt-water estuaries of the western coast. It is only the former of these that are lakes in the English sense of the term.

Lakes are very numerous in Scotland, and they especially abound within the highland region. They are for the most part long and narrow in shape, filling portions of the deep hollows between the valleys which everywhere intersect the mountains, or else occupying depressed basins within the high tracts of moorland.

The principal lakes situated within the Highlands of Scotland are enumerated in the following table:—

Lakes	Counties	Length in Miles	Breadth in Miles	Outlets
Loch Lomond	Dumbarton and Argyle	24	7	Discharges by river Leven into the Clyde
Loch Katrine	Perth . .	8	$\frac{3}{4}$	Discharges into Loch Achray
Loch Achray .	Perth . .	$1\frac{1}{2}$	$\frac{1}{3}$	Discharges into Loch Vennachar
Loch Vennachar	Perth . .	3	$\frac{1}{2}$	Discharges into river Teith
Loch Voil .	Perth . .	4	$\frac{1}{3}$	Discharges, by Bal- vaig river, into Loch Lubnaig
Loch Lubnaig	Perth . .	4	$\frac{1}{3}$	Discharges into river Teith
Loch Tay .	Perth . .	14	$1\frac{1}{2}$	Discharges into river Tay
Loch Ericht .	Inverness .	14	. .	Discharges into Loch Rannoch
Loch Awe .	Argyle . .	23	$1\frac{1}{4}$	Discharges by river Awe into Loch Etive, on the west coast
Loch Lydoch .	Argyle . .	10	$\frac{1}{3}$	Discharges into Loch Rannoch
Loch Rannoch	Perth . .	8	1	Discharges into river Tummel
Loch Earn .	Perth . .	8	$\frac{3}{4}$	Discharges into river Earn
Loch Ness .	Inverness .	22	$1\frac{1}{4}$	Discharges into river Ness
Loch Oich .	Inverness .	5	. .	Discharges into Loch Ness
Loch Lochie .	Inverness .	9	. .	Discharges into Loch Eil (W. coast)
Loch Morrer .	Inverness .	11	1	Discharges into Sound of Sleat
Loch Garry .	Inverness .	7	1	Discharges by river Garry into Loch Oich
Loch Maree .	Ross . .	$12\frac{1}{2}$	3	Discharges by river Ewe into Loch Ewe
Loch Fannich	Ross . .	7	$1\frac{1}{2}$	Discharges into Loch Luichart
Loch Luichart	Ross . .	5	$1\frac{1}{2}$	Discharges into Strath Conan
Loch Shin .	Sutherland	17	1	Discharges by river Shin into Dornoch Firth
Loch Coruisk .	Isle of Skye .	2	$\frac{1}{2}$	Discharges into L. Seavaig

The following are within the Lowlands: —

Lakes	Counties	Length in Miles	Breadth in Miles	Outlets
Loch Leven .	Kinross . .	4	3	Discharges by river Leven into Firth of Forth
St. Mary's Loch	Selkirk . .	3	$\frac{3}{4}$	Discharges into river Yarrow
Loch Skene .	Dumfries . .	. .	. .	Discharges into Mof- fatt Water
Castle Semple Loch	Renfrew . .	2	$\frac{1}{2}$	Discharges into Black Cart river
Kilbirnie Loch	Ayr . .	2	. .	Discharges into river Garnoch
Loch Doon .	Ayr . .	6	1	Discharges into river Doon
Loch Ken .	Kirkeudbright	5	$\frac{1}{2}$	Discharges into Loch Dee
Loch Dee .	Kirkeudbright	2	$\frac{1}{2}$	Discharges into river Dee

Loch Lomond has an area of about 35 square miles (9,000 hectares), and is the largest lake, not merely in Scotland, but in Great Britain. It contains a considerable cluster of islands, thirty in number. Ben Lomond adjoins its eastern shore, towards its northern extremity, where it narrows considerably in breadth. Steamers navigate the lake.

Loch Katrine (or *Katerin*) is situated not far distant from Loch Lomond, to the eastward of the latter, but high ground intervenes between the two lakes. The shores of Loch Katrine, with the smaller lakes of Achray and Vennachar, which lie below, form the district of the Trosachs, a tract of country regarded as surpassing in varied combination of mountain lake, river, and wood, any other in the British Islands.

Loch Awe is second in magnitude among the Scotch lakes, its waters covering an area of about 26 square miles. The huge mass of Ben Cruachan rises above its northern shores.

Loch Ness, *Loch Oich*, and *Loch Lochie*, all three nearly continuous, lie within the narrow valley of Glenmore.* The falls of Fyers, which are among the finest waterfalls in Britain, rivalling those

* See *ante*, p. 484.

of the Clyde and the Tummel in beauty, are within the high valley of Strath Ericht, on the east side of Loch Ness.

Loch Maree, which is of larger size than any other among the lakes that are within the Northern Highlands (i. e. the region lying north and west of Glenmore), is distinguished above any other by the wild and rugged grandeur of its surrounding scenery. It includes numerous small islands. The almost inaccessible crags by which Loch Maree is enclosed are among the few remaining haunts of the grey eagle.

GEOLOGY AND MINERALS.—The rock-strata of which Scotland is chiefly composed differ widely, in most cases, from those of South Britain. The vastly greater portion of the country exhibits formations of older date than those which constitute the great mass of the English rocks, and find no equivalent in the southern division of the island, excepting within the areas of Silurian deposit, on the western side of England and Wales. The oldest crystalline rocks of Scotland, indeed, surpass in antiquity of deposit any other of the British strata, and have no equivalent elsewhere within the British Islands.

It appears as the result of the latest investigations,* that the rocks which compose nearly all the more strictly mountainous portions of Scotland, within the Highland and Lowland regions alike, belong to the extensive assemblage of strata known as Silurian, and within which the various slaty and other formations included under the term greywacke are comprehended. In southern Scotland, these strata correspond to the Silurian deposits of Wales, and the tract of the Cumbrian mountains: within the Highland region they have undergone changes which have caused them to assume a crystalline texture, so that they have become converted into clay-slates, chlorite and mica-slates, and other schistose rocks, often of gneissose character. In other words, the Silurian rocks of western and northern Scotland have become *metamorphic*. It is of the latter description of strata that the Grampian region is mainly composed. A fundamental gneiss—of older date—underlies these metamorphic Silurian deposits to the westward, and appears upon the west coast of Sutherland and in the chain of the Outer Hebrides.

The area between these two great developments of Silurian rocks is occupied by the old red sandstone and the carboniferous systems.

* See "First Sketch of a New Geological Map of Scotland, with Explanatory Notes," by Sir R. I. Murchison and A. Geikie: Edinburgh, 1861.

The first-named (old red) immediately overlies the metamorphic rocks of the Highland region, appearing upon the western side of Strathmore, throughout its length, along the base of the lower Grampians. Old red sandstone also covers a considerable area in the neighbourhood of the Moray and Dornoch firths, with the included Firth of Cromarty.

The carboniferous rocks succeed the old red sandstone to the south-eastward, and include the southern half of the peninsula of Fife, with a broad tract of country which extends thence diagonally (from N.E. to S.W.), across the mainland of Scotland, to the coast of Ayrshire. Within this latter area is comprehended the great coal-field of Scotland—or, rather, a succession of detached coal-fields, found chiefly within the counties of Fife, Clackmannan, Stirling, Edinburgh, Linlithgow, Lanark, and Ayr. Secondary rocks of later date are but sparingly developed in Scotland. Trap of various kinds has been extensively erupted throughout the carboniferous area, and appears in Arran, Mull, Skye, and others of the Western Islands, as well as on parts of the neighbouring mainland. Granite occurs extensively in the higher parts of the Grampian region, also in Skye, the south-western peninsula of Mull, the island of Arran, and within the south-western portion of the Lowland area.

Coal and iron constitute the most important of the mineral productions of Scotland. The total superficial area of the workable coal-beds is estimated at from 1,500 to 1,720 square miles.* Ironstone of the best description occurs abundantly within the carboniferous area. Lead is worked in the tract of the Louth Hills (on the borders of Lanark and Dumfries), and in a few other localities. Good building-stones are everywhere abundant.

* Hull: Coal-fields of Great Britain.

CHAPTER XVI.

SCOTLAND — POPULATION AND INDUSTRIAL PURSUITS —
COUNTIES AND TOWNS.

THE population of Scotland amounted, in 1861, to 3,062,294. This is equal to an average, on the whole country, of 100 persons to the square mile. It is, therefore, comparatively to South Britain, a thinly populated country; and necessarily so, from the rugged nature of so large a portion of its surface. The distribution of the population over the country is, moreover, much more unequal and irregular than is the case with England. Large portions of Scotland exhibit a ratio of population to surface which falls very greatly below that of even the least populous of the English counties, while the inhabitants are found thickly clustered within a portion of the country which is of limited area.

At the period of the legislative union with England, in 1707, the inhabitants of Scotland are supposed not to have numbered more than 1,650,000. In 1755, when the population was first determined with any approach to accuracy, Scotland is estimated to have had 1,265,380 inhabitants. The amount of its population at each of the successive decennial periods at which a census has been taken during the present century is given in the following table: —

POPULATION OF SCOTLAND.

1810	.	1,608,420	.	equal to	54 persons to sq. mile
1811	.	1,805,864	.	"	60 "
1821	.	2,091,521	.	"	70 "
1831	.	2,364,386	.	"	79 "
1841	.	2,620,184	.	"	87 "
1851	.	2,888,742	.	"	96 "
1861	.	3,062,294	.	"	100 "

The numerical amount of the population exhibits therefore a continuous and steady increase, although, as in the case of England, the *ratio* of this increase has undergone a gradual diminution during the last forty years. During the interval between 1811 and 1821, the population of Scotland increased in the ratio of 16 per cent.: this ratio has successively declined, with the subsequent periods, to 13, 11, 10, and (between 1851 and 1861) 6 per cent. The increase of the population of England during the last period was in double that ratio, or 12 per cent.* The rate of increase has varied greatly in different parts of the country. Twelve of the Scotch counties, indeed, exhibit an actual decrease in the numbers of the population in 1861 as compared with 1851.† These twelve are, Argyle, Bute, Clackmannan, Dumfries, Inverness, Kincardine, Kinross, Kirkcudbright, Perth, Ross and Cromarty, Sutherland, and Wigton—nearly all of them agricultural or pastoral counties, and those among them which exhibit the greatest decrease belonging to the Highland division of the country.

The areas of the Scotch counties, their population in 1861, and the number of inhabitants to a square mile, are given in the following table:—

* The numerical increase in the population (as ascertained by comparison of the number of births and deaths within a given period) is much greater than that shown by the census returns of the later as compared with those of the earlier date. The difference is explained by the large extent to which emigration takes place from Scotland, not merely to foreign countries, but to the south of the Tweed, i.e. from Scotland to England, and especially to the metropolis. This cause explains the much smaller ratio of increase in the population of Scotland, compared with that of England, at the successive decennial periods.

Of the total number of emigrants who left the British Islands during the period between the Census of 1851 and that of 1861 (2,249,355), natives of Scotland numbered 183,627. This number, though much smaller absolutely than that of the emigrants from England and Wales during the same period (640,210), yet bears a much higher ratio to the total amount of the population—being, in fact, in nearly double the proportion. These figures are of course irrespective of the intra-insular migration—i.e. from Scotland into England—which is constant, and not inconsiderable in amount.

† Five of the English counties, and two of the Welsh, exhibit a numerical decrease within the same period. See *ante*, p. 278.

Counties.	Area in sq. m.	Pop. in 1861	No. of inh. to sq. m.
Aberdeen	1,970	221,569	112
Argyle	3,255	79,724	25
Ayr	1,149	198,971	173
Banff	686	59,215	86
Berwick	473	36,613	77
Bute	171	16,331	96
Caithness	712	41,111	58
Clackmannan	46	21,450	466
Dumbarton	320	52,034	163
Dumfries	1,098	75,878	69
Edinburgh	367	273,997	746
Elgin	531	42,695	80
Fife	513	154,770	302
Forfar	889	204,425	230
Haddington	280	37,634	134
Inverness	4,255	88,888	21
Kincardine	394	34,466	87
Kinross	78	7,977	102
Kirkcudbright	954	42,495	44
Lanark	889	631,566	710
Linlithgow	127	38,645	304
Nairn	215	10,065	47
Orkney and Shetland	935	64,065	68
Peebles	356	11,408	32
Perth	2,834	133,500	47
Renfrew	247	177,561	719
Ross and Cromarty	3,151	81,406	26
Roxburgh	670	54,119	81
Selkirk	260	10,449	40
Stirling	462	91,926	199
Sutherland	1,886	25,246	13
Wigton	512	42,095	82

No country in the world exhibits more clearly than Scotland the connection of physical geography with the distribution of population and the pursuits of social industry. The striking differences which obtain, in these regards, between the northern and north-western divisions of the country as compared with the south and south-east, are brought more clearly into view by the succeeding tables, in which the counties are arranged according as they fall principally within the Highland or the Lowland regions.

The following are principally, some of them wholly, Highland counties :—

	Inh. to sq. mile		Inh. to sq. mile
Aberdeen	112	Inverness	21
Argyle	25	Nairn	47
Banff	86	Orkney and Shetland . .	68
Bute	96	Perth	47
Caithness	58	Ross and Cromarty . .	26
Elgin	80	Sutherland	13

The counties that fall either wholly, or for the most part, within the Lowlands, are :—

	Inh. to sq. mile		Inh. to sq. mile
Ayr	173	Kinross	102
Berwick	77	Kirkcudbright	44
Clackmannan	466	Lanark	710
Dumbarton*	163	Linlithgow	304
Dumfries	69	Peebles	32
Edinburgh	746	Renfrew	719
Fife	302	Roxburgh	81
Forfar*	230	Selkirk	40
Haddington	134	Stirling*	199
Kincardine*	87	Wigton	83

The counties that are included in the former of these tables (i.e. the counties chiefly or altogether Highland) comprehend, with 20,601 square miles of surface, no more than 863,815 inhabitants—a ratio, on the entire average, of hardly 42 persons to the square mile. The counties that belong to the Lowland division of Scotland include an area of 10,084 square miles, and a population (in 1861) of 2,198,479—equivalent to an average of 218 persons to the square mile.† The Highlands, which cover above two-thirds of the surface of Scotland,

* The western portions of Dumbarton and Stirling belong to the Highlands, as also do parts of Forfar and Kincardineshire.

† The difference here brought into view would be yet greater, if, in the case of the counties which fall partly within the Highland and partly within the Lowland division, the Lowland portions were separated from their remaining and larger portions. Thus, Perthshire, through by far the greater portion of its extent, is a Highland county; but the city of Perth, which has above 25,000 inhabitants, is within the Lowlands. Similarly, in the case of Aberdeenshire—a thoroughly Highland county—the city of Aberdeen, which has upwards of 70,000 inhabitants, lies within the narrow belt of Lowland which stretches along the eastern coast, and its population is chiefly Lowland. The estimates above given are, however, sufficient for every purpose of general comparison.

include hardly more than a fourth part of its population. The Lowlands, with less than one-third part of the entire superficial area, comprehend little less than three-fourths of the inhabitants of Scotland.

The only Highland county that has a population averaging above 100 to the square mile is Aberdeenshire, and of its total number of inhabitants, a third part are found within the city of Aberdeen. The county of Ross, a thoroughly Highland region, has only 26 inhabitants to the square mile, Argyleshire no more than 25, Invernessshire only 20, while in Sutherland the ratio falls to the low number of 13 persons to the square mile. These instances are considerably below the similar cases presented in the most mountainous parts of England and Wales.

The Lowland counties present considerable and analogous differences. The more mountainous and almost exclusively pastoral portions of the Lowland region are very thinly populated. The counties of Peebles and Selkirk fall in ratio of population below the general average of the Highland division, and Kirkeudbright is but little above that average. The contrast, in this respect, between those counties and the shires of Renfrew and Lanark is as great as that presented, in the southern division of Britain, between such counties as Westmoreland and Lancashire, or between the shires of Radnor* and Glamorgan.

In Scotland, as in England and Wales, the distribution of geological strata, and the localities of mineral deposit, point to the seats of dense population. All the counties that fall within the carboniferous area of Scotland — Ayr, Renfrew, Lanark, Linlithgow, Edinburgh, Clackmannan, and Fife, with the eastern portions of Dumbarton and Stirling — are thickly populated. The county of Edinburgh ranks first in this regard, Renfrew second, and Lanark third. A large portion of Lanarkshire, including all upper Clydesdale, is pastoral: it is within middle and lower Clydesdale that its density of population is found. The tract of which the city of Glasgow forms the centre is the chief seat of the population and wealth of Scotland, as it is of its subterranean deposits of coal and iron.

The people of Scotland form two distinct races, — the *Lowlanders*, who are a mixed people, but resemble in the main the great bulk of the inhabitants of England, and speak a language which is radically the same as the English, — and the *Highlanders*, who are of the Celtic race, and speak a totally different dialect. The Lowlanders include

* Radnor, the least populous of the Welsh counties, has fifty-nine inhabitants to the square mile, and Merionethshire sixty-four. Westmoreland, the most thinly populated county of England, has eighty inhabitants to the square mile.

the great majority of the people, and the Highlanders are now chiefly confined to the districts lying north and west of the Grampians. The English language is gradually extending itself over every part of the Highlands, and the Celtic dialect will probably ere long be wholly supplanted by it.

Industrial occupations.—Scotland, in even a greater ratio than England, is principally a manufacturing and commercial country. In 1841, the proportion of the total population directly engaged in trade and manufacture was 18·1 per cent., and of those engaged in agricultural pursuits, 8·8 per cent. The generally mountainous character of the country imposes natural limits on cultivation, but the manufacturing and commercial resources of its southern portion—in the abundance of coal and iron, and the number and excellence of its harbours—are almost unbounded.

AGRICULTURE.—Only about a fourth part of the surface of Scotland is estimated to be capable of cultivation, and of this nearly one-half is in grass. Agriculture, however, is nowhere better understood, or more skilfully practised, than in some portions of the Lowlands, particularly in the Lothians (the counties of Haddington, Edinburgh, Linlithgow, to the south of the Firth of Forth), and the adjacent county of Berwick. In the counties of Dumfries, Ayr, Renfrew, Lanark, and Fife,—and also in the portion of Perth and Forfar which embraces the carse of Gowrie—as well as in parts of Aberdeen, Elgin, and Nairn—there are many fertile tracts, in which the cultivation of the soil is extensively carried on.

Throughout Scotland the staple crop consists of oats, but wheat of fine quality is grown in many of the above districts; barley is also grown, and flax, though only to a very limited extent. Turnip husbandry is extensively pursued in the counties of Haddington and Berwick, and throughout the eastern counties potatoes are largely grown, in part for the supply of the London market. The dairy-farm districts are chiefly in the counties of Ayr, Renfrew, and Dumfries.

FISHERIES.—The fisheries in Scotland constitute an important and valuable branch of industry. The salmon abounds in most of the larger rivers, especially in the Tay, the Tweed, Dee, Don, Findhorn, and Spey, and the produce of its fishery is very considerable. The herring-fishery is pursued to a great extent, chiefly on the shores of Caithness and the Moray Firth, off the entrance of the Firth of Forth, and in Loch Fyne and other places on the west coast. Cod, ling, and haddock, are likewise extensively taken, and there is a great oyster-fishery in the Firth of Forth.

MANUFACTURES. — The *cotton* manufacture is the first in importance, though of comparatively recent introduction, and the printing of cottons is carried on to a greater proportionate extent in Scotland than in England. Its chief seats are Glasgow and Paisley, and their immediate neighbourhood, in the counties of Lanark and Renfrew; with the vale of Leven, in Dumbartonshire (between the town of Dumbarton and the foot of Loch Lomond): it is also pursued, to a smaller extent, in the counties of Ayr, Aberdeen, and Perth.

The ancient staple manufacture of Scotland was that of *linen*, which is still carried on to a considerable extent, chiefly along the eastern coasts, — at Dundee (Forfar) and its neighbourhood for the coarser articles, as sailcloth, &c. — and at Dunfermline (Fife) and its vicinity for diapers, damasks, and the finer fabrics. Jute is largely employed as a substitute for flax in the coarser descriptions of linen goods.

The *woollen* manufacture, though less considerable than either of those above mentioned, is widely distributed, in great measure as a branch of domestic industry. It is pursued on the most extensive scale in the counties of Stirling, Ayr, Roxburgh, Selkirk, and Aberdeen. Woollen hose, blankets, and flannels are made at Hawick (Roxburgh), tartans at Stirling and Bannockburn, and carpets at the latter place and St. Ninian's (both in the immediate vicinity of Stirling). Kilmarnock (Ayr) is a noted seat of the manufacture of carpets, shawls, and other woollen goods. The manufacture of *silk* is pursued at Paisley, Glasgow, and Edinburgh. The iron-works belong chiefly to the neighbourhood of Glasgow, and the tract which extends to the east and north-east of that city.

The manufacture of soap (chiefly at Glasgow, Leith, Paisley, Aberdeen, Prestonpans, and Montrose) is a considerable branch of industry; and also the distillation of spirits from grain, pursued in almost every part of the country. Ale is brewed to a large extent in Edinburgh, Alloa, and elsewhere.

On the western coasts and islands of Scotland the manufacture of *kelp* (from the burning of sea-weed) — for use in glass-works, &c. — was formerly pursued to a considerable extent. But this branch of industry has been greatly checked by the extensive importation of barilla from the Mediterranean coasts of Spain.

Ship-building is largely carried on at Greenock and Port Glasgow. Steam-vessels are built at Glasgow, and at that city as well as at other places on the Clyde the fitting of steam-ships with their engines and machinery is more extensively pursued than at any other place in Britain. Besides those belonging to our own country, many of the finest steam-vessels owned by foreign nations have been supplied with their machinery from the banks of the Clyde.

COMMERCE. — The foreign commerce of Scotland resembles that of

England: her imports consist of the raw materials required for manufacturing purposes, chiefly cotton, with flax and jute, — and various articles of colonial produce, as tea, coffee, sugar, &c. The exports are principally manufactured goods, cotton and iron works, machinery, coals, &c. Agricultural produce is extensively supplied to England, including large numbers of cattle.

Glasgow is the great seat of the foreign commerce of Scotland, and is inferior in the total amount of its trade only to London, Liverpool, and Bristol. The commercial ports next in order of importance are Leith, Greenock, Port Glasgow, Aberdeen, and Dundee. Montrose (Forfarshire), Grangemouth (at the entrance to the Forth and Clyde Canal, Stirlingshire), Perth, and Arbroath, have also a considerable amount of foreign as well as coasting trade.

The ports of Ayr, Troon, Ardrossan, Irvine, and others on the coast of Ayrshire, export considerable quantities of coals, chiefly to Ireland and the Western Islands. The inhabitants of Peterhead are extensively engaged in the cod-fishery, and also the whale-fishery in the Northern seas.

Internal communication. — Excellent roads extend through almost every part of the country, and across even the most mountainous tracts of the Highlands.

Of *canals*, the two principal are, the *Forth and Clyde Canal*, which connects the estuaries of those rivers, through the plain which we have described under that name, and the *Caledonian Canal*, through the narrow valley (Glenmore) which extends across the Highland region, between the opposite sides of the island. The *Crinan Canal*, less than five miles in length, connects the waters of Loch Fyne with the Sound of Jura, and saves the tedious circumnavigation of the peninsula of Cantire. There are a few other canals, of merely local importance.

Nearly all the principal cities in Scotland are connected by *railway*. Two great trunk-lines enter the country from England, one on either side of the island, and proceed respectively to Glasgow and Edinburgh: from those cities, other lines proceed northward, by Stirling, Perth, Dundee, Forfar, Aberdeen, and Elgin, and extend as far as Inverness, between which place and London there is now uninterrupted railway communication of nearly 700 miles in length. The total extent of railway open in Scotland at the present time (1862) is little short of 1,500 miles.

DIVISIONS. — Scotland, like England, is divided into counties, thirty-three in number. The origin of this division

is obscure, but it appears to have existed — excepting in the case of certain districts, as Galloway, Ross, and the Western Isles — at as early a date as the accession of Robert Bruce.* The counties of Scotland have no subdivision into hundreds, wapentakes, &c., like those of England, nor any equivalent for those divisions. The ecclesiastical division of the kingdom is into synods, presbyteries, and parishes, the last-named of which are civil as well as ecclesiastical divisions. The division into parishes appears to have been introduced into Scotland by the middle of the twelfth century. The parishes are 922 in number.

The Scotch counties are of extremely irregular shape, and unequal size: Inverness, the largest, contains 4,255 square miles, Argyle 3,255, and Perth 2,834; while Clackmannan is only 46, and Kinross only 78, square miles in extent.

Of the islands, Bute, Arran, and the Great and Little Cumbray, form the county of Bute. The groups of the Orkney and Shetland Islands, though united for the purpose of parliamentary representation form in other respects distinct counties. In the Hebrides, the island of Lewis belongs to Ross,—Harris and the rest of the Long Island, with Skye, form part of the county of Inverness,—and Mull, Jura, Islay, and the smaller adjacent islands, belong to the shire of Argyle.

Many parts of Scotland are familiarly known by territorial names, some among which were formerly of universal prevalence. The principal of them are included in the following table:—

Angus, now Forfar	Breadalbane, part of Perth
Annandale, part of Dumfries	Buchan, „ Aberdeen
Appin, „ Argyle	Cantire, „ Argyle
Ardross, „ Ross	Carrick, the S.W. part of Ayr
Athol, „ Perth	Clydesdale, part of Lanark
Badenoch, „ Inverness	Cowal, „ Argyle

* Macculloch: Descriptive and Statistical Account of the British Isles, vol. i. In Scotland, as in the southern part of Britain, the county was the district subject to the local jurisdiction of the sheriff (or shire-reeve). In some parts of the country like powers were exercised by officers entitled stewards, and bailies, the tracts under whom were known as stewardries, and bailiewicks. Kirkcudbright is still designated as a stewartry. In most cases the authority of a steward or a bailiewick was exercised over particular portions of a county, under subjection to the higher power of the sheriff. In the county of Dumfries, there were, prior to 1756, three distinct jurisdictions — viz., the sheriffship of Nithsdale, the stewartry of Annandale, and the regality of Eskdale; coincident with its three natural divisions.

Cunningham, the N. part of Ayr	Lothian (Mid) now Edinburgh
Eskdale, part of Dumfries	Do. (West) „ Linlithgow
Ettrick Forest, now Selkirk	Mar, part of Aberdeen
Galloway, now Kirkeudbright and Wigton	Mearns, now Kincardine
Glenelg, part of Inverness	Menteith, part of Perth
Gowrie, „ Perth and Forfar	Merse, now Berwick
Knapdale, „ Argyle	Moray, „ Elgin
Kyle, the middle part of Ayr	Nithsdale, part of Dumfries
Lauderdale, part of Berwick	Stormont, „ Perth
Lennox, now Dumbarton	Strathbogie, „ Aberdeen
Liddisdale, part of Roxburgh	Strathearn, „ Perth
Lochaber, „ Inverness	Strathmore, „ Do. and Forfar
Lorn, „ Argyle	Strathspey, „ Elgin
Lothian (East), now Haddington	Teviotdale, „ Roxburgh
	Tweeddale, now Peebles.

TOPOGRAPHY.—In the ensuing brief description, the counties are taken in the following order:—1st. The SOUTHERN LOWLAND COUNTIES, or those counties that are embraced within the tract of country lying south of the isthmus between the Clyde and Forth. 2nd. The NORTHERN LOWLANDS, that is, the lowland tract which stretches along the eastern side of Scotland, to the south-eastward of Strathmore, and lying north of the Firth of Forth. 3rd. The SOUTHERN HIGHLANDS, that is, the counties included within the tract lying south of the main chain of the Grampians, and west of Strathmore, and reaching in its extreme limits from the most northerly point of Argyleshire to the Mull of Galloway. And, 4th. The NORTHERN HIGHLANDS, or the tract lying to the north of the Grampian chain, and including all the extreme north and north-west of Scotland. The counties of Scotland, thus arranged, are as follows:—

I. SOUTHERN LOWLANDS.

1. EDINBURGH	5. ROXBURGH	10. WIGTON
2. LINLITHGOW	6. SELKIRK	11. AYR
3. HADDINGTON	7. PEEBLES	12. LANARK
4. BERWICK	8. DUMFRIES	13. RENFREW
	9. KIRKCUDBRIGHT	

II. NORTHERN LOWLANDS.

14. DUMBARTON (eastern part of)	18. FIFE
15. STIRLING (do.)	19. FORFAR (chief part of)
16. CLACKMANNAN	20. KINCARDINE (eastern part of)
17. KINROSS	

III. SOUTHERN HIGHLANDS.

21. BUTE	22. ARGYLE	23. PERTH (chief part of)
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IV. NORTHERN HIGHLANDS.

24. ABERDEEN	28. INVERNESS	30. SUTHERLAND
25. BANFF	29. ROSS AND CRO-	31. CAITHNESS
26. ELGIN	| MARTY	| 32. ORKNEY
27. NAIRN		| 33. SHETLAND.

1. EDINBURGH, or MID-LOTHIAN, a maritime county, and the metropolitan county of Scotland, has an area of 234,925 acres, or 367 square miles. It is bordered on the east and west by the counties of Haddington and Linlithgow, or East and West Lothian; on the south, by Lanark, Peebles, and Selkirk; on the north by the Firth of Forth, along which its coast-line extends for upwards of twelve miles. The course of the river Almond coincides with the greater part of its western boundary; on the east and south the frontier is marked by an artificial line, which in the latter direction coincides in great part of its extent with the high ground that divides the rivers flowing into the Firth of Forth from those that belong to the Tweed basin.

The features of Edinburghshire are diversified. High grounds occupy most of the southern and inland divisions of the county, and stretch northward towards the coast in the immediate neighbourhood of the city of Edinburgh. The ranges known as the Muirfoot and Pentland Hills both belong to this county—the former within its south-eastern division, and almost entirely within its limits. The highest summits of the Muirfoot Hills exceed 2,000 feet above the sea. The principal eminences of the Pentland chain, situated farther to the westward, are upwards of 1,800 feet.* Braid Hill, 600 feet, between two and three miles south of Edinburgh, and Arthur's Seat, 822 feet, more nearly adjacent to that city, on the south-east, may be regarded as outlying eminences of the Pentland chain. The Corstorphine Hills, three miles west of Edinburgh, are divided from the last-named eminences by the valley through which the Water of Leith flows. With the exception of these high grounds in the vicinity of Edinburgh, the northern division of the county, for a distance of five or six miles inland from the sea, has for the most part a merely undulating surface. The south-western portion of the county is only of moderate height.

* See *ante*, p. 482.

Five-sixths of Edinburghshire belong to the basin of the Forth, towards the estuary of which most of its running waters are directed. The chief rivers are—the Esk, the Water of Leith, the Almond, and the Gala. The last named, which waters the south-eastern extremity of the county, is an affluent of the Tweed. All the others flow into the Firth of Forth. The Esk, which is the most considerable, is formed by two branches, the North and South Esk, which unite immediately below the town of Dalkeith. The Almond has the upper part of its course within the county of Linlithgow, and after the junction (on its right bank) of the Breich Water, forms the boundary between the counties of Linlithgow and Edinburgh.

Geology and Minerals.—Edinburgh includes part of the great coal-field of Scotland, the strata belonging to which form the basis of its geology, and predominate throughout its middle and westerly divisions. In the hilly districts of the south-east, palæozoic strata (greywacke and clay-slate) prevail. The Pentland Hills are composed chiefly of porphyry, of various kinds, among which whinstone and other igneous rocks are met with. The central upper portions of Arthur's Seat consist of basalt, which has been erupted through the strata of limestone and sandstone that compose its base. The Castle Rock, in the heart of the city of Edinburgh, is a huge mass of basalt and greenstone, rising above a base of sandstone. Greenstone also appears towards the north-western border of the county, and composes the mass of the Corstorphine Hills.

Coal, limestone, and sandstone, are all extensively worked in various parts of the county. The sandstone quarries at Craigleith and Granton, in the neighbourhood of Edinburgh, furnish excellent building-stone.

The larger part of Mid-Lothian (as of the whole tract adjoining the south side of the Firth of Forth) is agricultural, and excellent crops of wheat, barley, and other grains, with turnips, &c., are raised in the arable lands. The more hilly portions of the county, in the south and south-east, are chiefly pastoral. But a large proportion of the inhabitants are engaged in manufactures, especially in those of flax, silk, and woollen goods, the fabrication of which, as well as many other branches of industry, is extensively pursued in the Scotch metropolis. The various shipping ports and fishing villages on the shores of the firth indicate the characteristic pursuits of a not inconsiderable portion of the inhabitants of the county.

The county of Edinburgh includes 42 entire parishes, with portions of 2 others. Besides the metropolis—Edinburgh—and the considerable town of Leith, it contains the parliamentary boroughs of Musselburgh, and Portobello, and the town of Dalkeith. Their respective populations, in 1861, were :—

EDINBURGH	Pop. 168,121	MUSSELBURGH	Pop. 7,423	PORTOBELLO	Pop. 4,366
LEITH	. 33,628			DALKEITH	. 5,396

Edinburgh, which is a city, returns two members to parliament. Leith, Musselburgh, and Portobello, unite in the return of a single member. The county returns one member.

The city of Edinburgh lies within about two miles of the southern shore of the Firth of Forth, in the direction of N.N.W. from London, and at a direct distance of 325 miles from that city, or 398 by railway. It is picturesquely situated on two ridges of hill, which are occupied by the Old and New Towns respectively. The more southwardly of these ridges, which forms the site of the Old Town, terminates on the west in the Castle Hill, 434 feet above the sea. Between the Old and the New Town lies a deep hollow, or ravine, converted into gardens, and crossed at two different points by a spacious bridge and an earthen mound. The New Town, to the north and north-westward of the Old, consists of wide and open streets, with numerous squares, terraces, and crescents, and presents features of great architectural beauty. On this latter side, Edinburgh slopes towards a small stream called the Water of Leith, which washes its northern and western outskirts. In the north-east part of the city is the Calton Hill, 355 feet above the sea; this is separated by the valley in which Holyrood is situated from the picturesque and commanding eminence of Arthur's Seat, 822 feet above the sea. The whole city is about seven miles in circuit.

Edinburgh is chiefly distinguished as a seat of learning: its University holds a distinguished rank for the cultivation of general literature and science, besides numerous other literary and scientific institutions. The Castle of Edinburgh, and the ancient royal palace of Holyrood House, are its two most celebrated structures. Edinburgh is the seat of the supreme Courts of Law for Scotland.

Leith, situated on the shores of the Firth of Forth, at the mouth of the little rivulet called by its name, is the principal port of Edinburgh, with which city it is nearly united by continuous lines of building. It has great coasting and foreign trade, ranking second only to Glasgow in the order of importance among the Scotch ports. Leith was formerly a mere dependent suburb of Edinburgh, but it is now an independent borough.

Upon the southern shores of the firth, on either side of Leith, are numerous small ports and fishing towns, several of which are much resorted to as summer watering-places by the people of Edinburgh. *Newhaven*, one mile west of Leith, and *Granton*, farther to the westward, both share in the trade of that port. To the eastward of

Leith are *Portobello* and *Musselburgh*, both on the coast, the latter at the mouth of the river Esk. Adjoining Musselburgh to the south is the village of Inveresk: less than a mile to the eastward of the latter is the site of the battle of Pinkie, A.D. 1547. *Dalkeith*, a small town situated 6 miles to the S.E. of Edinburgh, derives its chief interest from Dalkeith Palace, the magnificent residence of the Duke of Buccleugh. The old castle of Dalkeith, which stood on the site of the palace, has been the scene of many stirring events in Scottish story. The fight at the Pentland Hills, in 1666 (between the royalist troops and a body of insurgents), took place within this county—at a locality about 7 miles to the S. by W. of Edinburgh, and not far from the village of Penicuik.

2. LINLITHGOW, or WEST LoTHIAN, has an area of 81,113 acres, or 127 square miles. It borders on the narrower portion of the Firth of Forth, along which it has a coast-line of about 17 miles in length, between the mouths of the rivers Almond and Avon. The river Almond marks the border of the county on the side of Edinburghshire; the Avon on that of Stirlingshire.

Linlithgow includes no ground of any considerable elevation, though its surface is in general agreeably diversified and undulating. Its hills are chiefly within the central and western portions of the county. Few of them exceed a thousand feet: the highest, Cairn Caple (two miles N.E. of Bathgate), is 1,498 feet. The valleys between the high grounds lie generally east and west, and are drained by the small streams which flow in that direction towards the rivers Almond and Avon respectively. In the southern part of the county there are heathy and mossy tracts of some extent.

The *geology* of Linlithgow resembles that of Mid-Lothian. Two-thirds of the county are within the limits of the great coal-field. Basalt and other trap rocks come to the surface in many localities, and red sandstone appears in some places. Both coal and iron are extensively worked; limestone and sandstone are quarried. Lead-mines were formerly worked in the hills near Bathgate.

The industry of West Lothian is chiefly agricultural, and a large portion of the land is under the plough. Turnips are grown on an extensive scale. The cotton manufacture is pursued in the towns, and mining engages a considerable share of attention.

The county of Linlithgow includes 12 entire parishes, with portions of 2 others. It contains the following towns:—

	Pop.		Pop.
LINLITHGOW . . .	3,843	BORROWSTONENESS . .	3,814
BATHGATE . . .	4,827	QUEENSFERRY, South .	1,230

Linlithgow and Queensferry are parliamentary boroughs. The town of Linlithgow unites with Airdrie, Falkirk, Hamilton, and Lanark, in returning one member to parliament. Queensferry unites similarly with Culross, Dunfermline, Inverkeithing, and Stirling, in the return of a member. The county of Linlithgow returns one member.

The town of *Linlithgow*, the capital of the county, stands on the banks of a small *lin*, or lake, which communicates with the stream of the Avon. It possesses the ruins of a fine ancient palace, situated on the shore of the lake, and within an apartment of which Mary Queen of Scots was born. *Bathgate*, five miles to the south, is a thriving town, with important markets for cattle and agricultural produce. *Queensferry*, nine miles to the westward of Leith, and *Borrowstoneness* (contracted into *Bo'ness*), farther to the west — both on the shores of the Firth of Forth — are small seaports, possessing some trade.

3. HADDINGTON, or EAST LOTHIAN, a maritime county, has an area of 179,142 acres, or 280 square miles. It has an extensive coast-line, along the broader portion of the Firth of Forth and the adjacent part of the North Sea. The greater part of the coast is of only moderate elevation, but a few conspicuous promontories occur. Upon one of these, a few miles east of North Berwick, are the ruins of Tantallon Castle; Whitberry Point is farther to the southward. The Bass Rock, a huge mass of basalt which rises steeply out of the sea to a height of 420 feet, lies two miles distant from the coast, at the entrance of the Firth of Forth. Some smaller islets, of less elevation, occur off the coast of the county.

The surface of Haddingtonshire is very diversified. The Lammermuir Hills cover the southern and south-eastern portions of the county, forming part of its border-line on the side of Berwick. The principal summits of these exceed 1,700 feet in height. Thence the ground sinks, by successive terraces, to the northward. Traprairie Law, near the right bank of the Tyne, is 724 feet high. The valley of the river Tyne occupies the middle portion of the county. The tract lying farther north, between the Tyne and the Firth of Forth, is of moderate elevation: North Berwick Law (to the southward of the town of North Berwick) reaches 800 feet. The river Tyne, which hardly exceeds 20 miles in length, and the source of which is within the county of Edinburgh, is the largest river of East Lothian; but there are numerous smaller streams — amongst them the Peffer, which falls into Aberlady Bay, on the north coast of the county. A bar at the mouth of the Tyne obstructs its entrance.

The chief formations exhibited in the *geology* of East Lothian are greywacke, red sandstone, coal, and trap. The first-named, of which the Lammermuir Hills are principally composed, belongs to the extensive Silurian area of southern Scotland. The red sandstone, by which this is succeeded to the northward, extends over the valley of the Tyne, and appears upon portions of the coast farther north. The cliffs which line the shore immediately north of the mouth of the Tyne consist principally of basalt, intermixed with trap-tuff, clinkstone, porphyry, and other trap formations. The extreme west of the county includes part of the great Scotch coal-field.

The industry of East Lothian is chiefly agricultural, and the county ranks high in respect of its husbandry. Wheat, beans, oats, and turnips, are the articles of most extensive produce. The Lammermuir district, in the southern part of the county, is pastoral rather than arable. The inhabitants of the coast-towns and villages are engaged in the fisheries, and in the pursuit of an active coasting-trade.

The county of Haddington includes 23 entire parishes, with parts of 2 others. Its towns and principal villages are : —

	Pop.		Pop.		Pop.
HADDINGTON	3,897	DUNBAR .	3,516	TRANENT .	2,257
NORTH		Preston Pans	1,577	Aberlady .	480
BERWICK .	1,164				

Haddington, North Berwick, and Dunbar, are parliamentary boroughs, and unite with Jedburgh and Lauder in the return of one member. The county returns one member.

The town of *Haddington* is situated on the banks of the river Tyne. It has only local importance, derived from its extensive markets for wool and corn. The village of Aberlady, on the bay of that name, forms its nearest port; but the principal seaport of East Lothian is the old town of Dunbar, on the eastern coast of the county.

Dunbar is now chiefly distinguished as a seat of the herring-fishery. It possesses great historic interest, having shared in the most stirring events of Scottish annals. Its position, in near proximity to the English border, rendered it in early times the frequent scene of contest between the rival nations; and its castle, now in ruins, was frequently besieged.* Two important battles connect themselves with the locality of Dunbar — the first a victory

* The most noteworthy of these occasions was in 1337, when the famous "Black Agnes," Countess of March, gallantly defended her stronghold against an English army under the Earl of Salisbury, during her husband's absence. After six weeks of successful defence, the assailants were obliged to raise the siege.

gained by Edward I., A.D. 1296, over a Scottish army under Baliol, immediately outside its walls: the second, Cromwell's victory of Sept. 3, 1650.*

North Berwick is an inconsiderable port, upon the northern coast of the county. *Preston Pans* and *Tranent*, both of them thriving villages, are near the Edinburgh border — the former on the coast, the latter about three miles inland. *Preston Pans* has a place in history, due to the defeat in its neighbourhood of the Royalist forces, under Sir John Cope, by the Highland followers of Prince Charles Edward, in 1745.

4. BERWICKSHIRE, a maritime county, in the extreme south-east of Scotland, has an area of 302,951 acres, or 473 square miles. Its coast-line, which is generally high and rugged, includes the conspicuous promontory of St. Abbs Head. The Tweed flows for some distance along the south-eastern border of the county, and divides it from the English county of Northumberland.

Berwickshire includes a greater extent of level or merely undulating land than is found in most parts of southern Scotland, though it has also some tracts of opposite character. The land in general rises from the valley of the Tweed (a considerable portion of which is within the county) towards the north and north-west, in which latter direction it includes part of the Lammermuir range. The tract of country adjoining the left bank of the Tweed, and including the valley of the Blackadder river, is known as the Merse. The greater part of Lauderdale, or the valley of the river Lauder (an affluent of the Tweed), is within the county, towards its western border.

In a general sense, Berwickshire may be regarded as divided into the hills and the lowlands. The tract of the Lammermuirs, in the north-west, constitutes the former of these divisions: the Merse, and the chief part of Lauderdale, belong to the latter. Meikle Says Law, 1,750 feet, the highest point of the Lammermuirs, is on the borderline of Berwick and Haddington; as also is Ninecairn Edge, 1,478 feet, farther to the westward. Meikle Law, 1,531 feet; Leenes Law, 1,686 feet; Blythe Rig, 1,412 feet; and Hog Hill, 1,394 feet, all of them belonging to the same tract of high ground, together with many other points of nearly equal elevation, are within Berwickshire. A chain of high ground stretches to the south-eastward from the Lammermuir range, and fills up the tract enclosed between the

* See *ante*, chap. xii. p. 264. The earlier of the events above referred to is described in Hume, chap. xiii.

Whiteadder and Blackadder rivers: within this are Great Law, 1,260 feet, and Dunse Law (near the town of Dunse), 630 feet.

The chief rivers of Berwickshire, besides the Tweed, are the Lauder, the Whiteadder, Blackadder, and the Eye. The last-named flows directly into the North Sea, which it enters at Eyemouth, after a course of 20 miles. It is joined on its left bank, a little more than a mile above the sea, by the Ale Water. All the other streams of Berwickshire join the Tweed, to the basin of which river seven-eighths of the county belong. The Whiteadder rises in East Lothian, and receives the stream of the Dye (from the southern slopes of the Lammermuir region) before its junction with the Blackadder, which comes from the south-west. From the junction of the last-named stream, the Whiteadder continues its course in a S.E. direction, and joins the left bank of the Tweed, about 3 miles above the sea, within the portion of Northumberland which lies to the northward of that river, and which formerly constituted the distinct liberties of the town of Berwick-upon-Tweed. Coldingham Loch, not far from St. Abbs Head, covers about 30 acres.

The *geology* of Berwickshire exhibits principally the clay-slates and other strata of the Silurian period (greywacke), with red sandstone, and (in the south-east, towards the course of the Tweed) limestone of the carboniferous era. The last-mentioned forms the most northwardly extension of the great coal formation of the northern counties of England. Red sandstone is the predominant rock throughout most of the lowland portion of the county. Slate, of indifferent quality, is worked within the Silurian formations in the west of Berwickshire, near the town of Lauder. Gypsum, shell-marl, and the coarse sandstone known as pudding-stone, are also worked within the county. Trap appears, in various localities, in detached masses.

The industry of Berwickshire is almost wholly agricultural, both arable husbandry and the breeding of stock being extensively pursued. The lower slopes of the Lammermuir region are almost exclusively pastoral: Lauderdale, the Merse, and the low grounds towards the coast, include the greater part of the arable lands, within which wheat, barley, and beans are the prevailing crops.

The county of Berwick includes 31 parishes, with parts of 2 others. It contains the following towns:—

	Pop.		Pop.		Pop.
GREENLAW	800	LAUDER	1,137	Coldstream .	1,834
DUNSE	2,556	Earlston	980	Eyemouth .	1,721

Of the above, Lauder is a royal and parliamentary burgh, and is

associated with Haddington and other burghs in the return of a member.* The county of Berwick returns one member.

Greenlaw, the county-town of Berwickshire, is a small place on the stream of the Blackadder. *Dunse*, a populous market-town, is the largest and most important place in the county: it stands in the midst of a rich agricultural tract. *Coldstream*, a border-town, stands on the north bank of the Tweed. The battle of Nesbit Moor (1354) was fought within the county, upon ground adjoining the left bank of the Tweed, some distance below Coldstream, and nearer to Norham, on the opposite or English side of the river.

Earlston (formerly Ereildoune), a manufacturing village in the lower part of Lauderdale, is famous in Scotch traditionary records as the residence of "Thomas the Rymer," a seer of the thirteenth century, whose name and prophecies have been rendered familiar to the English reader by the pen of Sir Walter Scott. Dryburgh Abbey, the burial-place of Scott, is in the south-western angle of the county, on the north bank of the Tweed.

5. ROXBURGHSHIRE, an inland county, adjoining the English border, has an area of 428,494 acres, or 670 square miles. Its frontier on the side of England is marked principally by the high ground of the Cheviot Hills. The border-line in other directions is exceedingly irregular, part of it extending northward of the Tweed, though all but a very limited portion of the county is to the south of that river.

Roxburgh has great diversity of surface. Its higher portions lie principally along the English border, and within the tract that extends thence to the county of Dumfries—that is, within its south-eastern and southern divisions. From these high grounds, the larger portion of the county has a gradual slope to the north-east and north, towards the Tweed valley: a much smaller area of its surface slopes in the opposite direction, south-westwardly, towards the head of the Solway Firth. The northward and more extensive of these slopes includes Teviotdale: the southward and smaller slope comprehends the chief part of Liddisdale.

Among the principal summits of the Cheviot region, Blackhall Hill, Fairwood Fell, Carter Fell, and Peel Fell, lie along the line of the Roxburgh and Northumberland border. To the west of the last-named hill, the dividing range between the basins of the Tweed and the Solway stretches across the county towards the Dumfriesshire

* See *ante*, p. 512.

border.* Windbrugh Hill, the Maiden Paps, and Wisp Hill (1,940 feet) — the last-named on the border of the counties of Roxburgh and Dumfries — are within this western prolongation of the Cheviot region. Pike Fell, Hartsgarth Fell, and Tinnis Hill, belong to a chain of high ground which extends, in the direction of north and south, along the western side of Liddisdale, upon the border-line of Roxburgh and Dumfries. The Eildon Hills, 1,364 feet, a detached group, adjoin the right bank of the Tweed, within the N.W. portion of the county.

The principal rivers of Roxburgh are the Tweed and the Teviot, with the numerous affluents of the latter. The Tweed crosses the northern portion of the county, and flows in part along its border. The Teviot, which joins the right bank of the Tweed, above Kelso, is the most considerable river that is altogether within its limits, and gives its name — Teviotdale — to the larger portion of its area. The Teviot is joined, on its right bank, by the streams of the Slitrig, the Rule, the Jed, and the Kail; on its left bank, by the Borthwick, and the Ale Water. The Gala, the Lauder, and the Ettrick — all three affluents of the Tweed (the two former on its left bank, the last on the right) — form, for short distances, portions of the Roxburgh border. The upper portion of the Beaumont, a main affluent of the Till,† an English river, is within the extreme east of the county. The Lidd, or Liddel, with its tributary, the Hermitage Water, flows through Liddisdale — the extreme south-western division of the county — and joins the Esk, which carries its waters to the Solway.

The *geology* of Roxburghshire exhibits principally red sandstone and Silurian strata; with (in the Cheviot region) trap of various character, but in which porphyry of reddish-brown colour predominates. The red sandstone area includes the lower part of Teviotdale, with the adjacent portion of the Tweed valley. The Silurian formations (greywacke) comprehend Upper Teviotdale and the adjoining Dumfriesshire border. The carboniferous limestone of Northumberland and Cumberland extends into the extreme southern portion of Roxburghshire, over part of Liddisdale. The red sandstone is extensively used for building purposes.

Roxburgh is chiefly an agricultural county, but a considerable number of the inhabitants are employed in the woollen and hosiery manufactures, pursued on a scale of greater or less magnitude throughout the towns and villages of southern Scotland. Nearly half the area of the county is under the plough, and a large proportion of the remainder is employed as sheep-pasture. The trap district of the Cheviots forms excellent pasture-ground. The arable husbandry is very

* See *ante*, p. 481.

† See p. 180.

good, and all the middle and lower portions of Teviotdale yield abundant crops of wheat, with turnips, &c.

Roxburgh includes 30 entire parishes, with portions of 5 others. Its towns and principal villages are:—

	Pop.		Pop.		Pop.
JEDBURGH .	3,428	KELSO .	4,309	Ancrum .	538
HAWICK .	8,191	Melrose .	1,141	New Castleton	1,124
		Roxburgh .			

Jedburgh is a parliamentary borough, associated with Haddington and other places in the return of a single member. The county of Roxburgh returns one member.

Jedburgh, the county-town of Roxburgh, stands beside the river Jed (an affluent of the Teviot), in the middle of the county. Roxburgh, now an insignificant village (on the left bank of the Teviot, 2 miles above its junction with the Tweed), had been, prior to its ruin by the calamities of war in the twelfth century, the county-town, and a royal residence. Jedburgh is nearly equidistant between Kelso and Hawick.

Kelso, one of the principal towns in the border district, lies on the north bank of the Tweed, twenty-two miles above Berwick; it has great trade in corn. At a distance of thirteen miles to the westward, on the south bank of the river, is *Melrose*, famous for the ruins of its abbey, and three miles beyond is Abbotsford, the former residence of Sir Walter Scott. Melrose lies near the foot of the Eildon Hills. *Hawick*, nineteen miles south-west of Kelso (situated on the little river Slitrig, at its junction with the Teviot), has considerable manufactures of hosiery and other woollen goods.

The battle-fields of Haddenrigg (1542) and Ancrum Moor (1545) fall within this county—the former about four miles E. of Kelso, the latter a few miles N.W. of Jedburgh.

6. SELKIRKSHIRE, an inland county, has an area of 166,524 acres, or 260 square miles. The line by which it is divided from the adjacent counties is exceedingly irregular: to the south and west, however, it coincides in great part with the high grounds which enclose the basin of the Ettrick in those directions, and by which Upper Tweeddale is limited on its eastern side. The Tweed, and its affluent, the Gala, form for short distances portions of the county boundary. A small portion of Selkirkshire lies to the northward of the Tweed.

The whole of Selkirkshire is elevated, and the county forms throughout a pastoral region, no part of which is probably less than three hundred feet above the sea. The most considerable elevations are on or near its south-western border, whence the long valleys of the Ettrick and the Yarrow, by which the more hilly portions of the

county are penetrated, slope to the north-eastward, towards the banks of the Tweed. Among the more conspicuous hills are Ettrick Pen, 2,258 feet, and Wind Fell, both situated near the source of the Ettrick river; Ward Law and Black Andrew, between the valleys of the Ettrick and Yarrow; Minch Moor and Hangingshaw Law, between the last-named river and the Tweed; and Windlestraw Law, to the northward of the Tweed.

Next to the Tweed, which crosses the county from west to east (having about 11 miles of its course either within its limits or upon its border), the principal river of Selkirkshire is the Ettrick, with its tributary the Yarrow. The former gave to the whole county the name, by which it was formerly known, of Ettrick Forest.* The Yarrow joins the Ettrick, on the left bank of the latter, about 2 miles above Selkirk. It flows, in the upper portion of its course, through the Loch of the Lowes, and the larger body of water called St. Mary's Loch. The Gala, which joins the left bank of the Tweed, has the greater part of its course in Edinburghshire; after leaving that county it forms the boundary between the shires of Selkirk and Roxburgh.

Geologically, Selkirkshire belongs throughout to the Silurian period, its entire area, high and low grounds alike, being composed almost wholly of greywacke and clay-slate. On the western side of the county, towards Peeblesshire, are strata of porphyry, alternating with slate and granite.

Selkirkshire is, with the exception of the adjoining county of Peebles, the least populated portion of southern Scotland. It is principally a pastoral region, cattle and sheep being numerously reared upon the hill sides and higher grounds in general. Good crops of wheat, barley, and oats are raised in the less elevated portions of Ettrickdale and elsewhere.

Selkirkshire includes portions of ten parishes, only three of which are wholly within the county. It has no parliamentary borough. The county of Selkirk returns one member. The only towns are:—

	Pop.		Pop.
SELKIRK . . .	3,695	GALASHIELS . . .	6,433

Selkirk, which ranks as the county-town, is a small place on the banks of the Ettrick, in the midst of a rich pastoral tract; some woollen mills have recently been erected in its vicinity. Philiphaugh, the scene of Montrose's surprise and defeat by David Lesley, in 1645, is on the left bank of the Ettrick river, immediately opposite

* The older historians often refer to this county simply as "The Forest."—See Hume: Hist. of England, chap. lviii. (in reference to the defeat of Montrose, at Philiphaugh).

to Selkirk. *Galashiels*, on the right bank of the Gala, about a mile above its junction with the Tweed, is a considerable seat of the woollen manufacture. The fine cloths known by the name of "Tweeds" are chiefly made here; and, besides the abundant supply of wool from the adjacent districts, a considerable quantity is imported.

7. PEEBLESSHIRE, or Tweedale, an inland county, has an area of 227,869 acres, or 356 square miles. Its border-line is very irregular, but coincides, in a general sense, upon the north, west, and south, with the hills that enclose the upper portion of the Tweed basin in those directions.

The whole surface of Peeblesshire is high, the least elevated portion of the Tweed valley, within its limits, being hardly less than five hundred feet above the sea. Among the hills which enclose the Upper Tweed valley are Hart Fell, 2,635 feet, near the source of the Tweed, and on the southern border of Peeblesshire; with Whitcombe Edge, Broad Law, Dollar Law, and the Scrape, upon the eastern side of Tweedale—the three last-named within the county of Peebles. Upon the western side of the Tweed valley are Culter Fell, 2,410 feet, and Cardon Hill—the former upon, and the latter nearly adjacent to, the Lanarkshire border. The high grounds which enclose Upper Tweedale are the most elevated portions of southern Scotland. Some of the smaller affluents of the Clyde and the Annan, as well as the streams that belong to the Tweed valley, have their origin in this locality. Portions of the Pentland Hills, in the north-west, and the Muirfoot chain, in the north-east, belong to the northern borders of the county.

The Tweed is the principal river of Peeblesshire, which it traverses from its source downward to some distance below the junction of the Leithen Water. Nearly all the other streams of Peeblesshire are affluents of the Tweed: among them are the Biggar Water, the Lyne, the Eddlestone, and the Leithen, on the left bank of the Tweed; with the Manor and the Quair, on its right bank. The Biggar Water enters the county from Lanarkshire: the others are entirely within its limits. Eddlestone Loch, in the north-east of the county, gives origin to the stream called Fullarton Water, an affluent of the South Esk (one of the arms of the Edinburgh Esk).

Geology.—Peeblesshire, like the adjacent county of Selkirk, belongs chiefly to the Silurian period of geologists. Greywacke (or whinstone, as it is locally called) is the prevailing rock, and is quarried near the town of Peebles. Where exhibiting, as in some localities, a laminated structure, it is used as roofing slate. Red sandstone and limestone (the latter of the carboniferous period) occur within the

north-western part of the county, and coal is found in its extreme north, adjacent to the Edinburgh border.

Peeblesshire is the least populated portion of southern Scotland. It is necessarily, from its elevated and generally hilly character, a pastoral region. The land under cultivation does not exceed one-seventh of the entire area of the county. The stock farming is on an extensive scale, and the culture of turnips and grasses, as fodder for cattle, forms the most important element in the husbandry.

Peeblesshire includes 12 entire parishes, with portions of 3 others. It has no parliamentary borough. The county of Peebles returns one member.

The town of PEEBLES (pop. 2,045) stands on the left bank of the Tweed, at the junction of the Eddlestone Water. Peebles was made a royal burgh by David II. of Scotland, in recognition of the large share in which it had contributed to his ransom from the English, after he had been made prisoner at the battle of Nevill's Cross (1346).

The two most considerable places within Peeblesshire, next to the county-town, are the villages of *Innerleithen* (or Inverleithen), at the junction of the Leithen Water with the Tweed, and *Linton*, on the little river Lyne, within the north-western part of the county. Innerleithen (pop. 1,130) possesses a mineral spring,* and is frequented as a watering-place.

8. DUMFRIESSHIRE has an area of 702,953 acres, or 1,098 square miles. It is, on the whole, an inland county, though about twenty miles of its southern border are marked by the waters of the Solway Firth, within the upper portion of that extensive estuary. In the respective directions of west, north, and north-east, the limits of the county are for the most part coincident with high grounds which form the watershed between the basins of the rivers that flow towards the Solway, and those that belong either to the valleys of the Clyde or the Tweed. The lower portion of the Nith, and the course of its affluent, the Cluden, mark part of the county border, in the direction of south-west, as the streams of the Sark, the Esk, and the Lidd, do upon its eastern side.

Most parts of Dumfriesshire are hilly, with the exception of the tract immediately bordering on the Solway, which is generally flat. The surface only becomes mountainous towards the border-line which divides it from the adjacent counties on the north and west. Proceeding from east to west, along the line, are the following conspicuous elevations—Wisp Hill, 1,940 feet; Ettrick Pen, 2,258 feet; Wind Fell;

* The "St. Ronan's Well" of Sir Walter Scott.

Whitcombe Edge; Hart Fell, 2,635 feet; Queensberry Hill, 2,259 feet; Louthier Hill, 2,522 feet; and Black Larg, 2,890 feet. The first-named of these eminences, Wisp Hill, is on the border-line of Dumfries and Roxburgh, and near the head of Teviotdale. Ettrick Pen, near the head of Ettrick Water, is on the border of Dumfries and Selkirk. Whitcombe Edge and Hart Fell (the latter near the source of the Tweed) are on the border of Peeblesshire. Queensberry Hill and Louthier Hill belong to the border of Dumfries and Lanark, and Black Larg is situated at the point of junction of the three shires of Dumfries, Ayr, and Kirkcudbright.

From these bordering high grounds, the surface of Dumfriesshire slopes in a general direction of south-east towards the Solway Firth, forming three distinct and extensive valleys, which are watered respectively by the rivers Esk, Annan, and Nith, with their various tributaries. These valleys form the tracts known as Eskdale, Annandale, and Nithsdale.* The high grounds of the western and north-western border limit the area of Upper Nithsdale, advancing into the county nearly to the banks of the Nith. The hill called Cairnkinnow, on the W. side of the Nith (seven miles N.W. of Thornhill), is 2,080 feet high. Hills of moderate elevation divide Nithsdale from Annandale, and the latter from Eskdale, excepting where all three valleys open out towards the Solway, along which an extensive level stretches. This level tract includes, in the west (along the left side of the Nith, below Dumfries), the extensive Lochar Moss, portions of which have been drained within a recent period.

The Nith, the Annan, and the Esk are the three principal rivers of Dumfriesshire, and, with their affluents, water the whole of the county. The *Nith* has the upper part of its course within the adjacent county of Ayr: after entering Dumfriesshire, it receives on its right bank (beside several smaller affluents) the united streams of the Skarr and the Shinnel, and, lower down, the Cluden—the last-named of which forms part of the county boundary, on the side of Kirkcudbright: the largest of its affluents on the left bank is the Cravick, which joins it above Sanquhar. The *Annan* is joined on its right bank by the Evan, and the united Kinnel and Ae Waters: on its left bank, by the Moffat, the Dryfe, and the Milk Waters. The *Esk* receives on its right bank the stream of the Black Esk, and on its left bank the Ewes, Tarras, and Lidd, or Liddel.

Amongst the smaller rivers of Dumfriesshire, besides the above, are the Lochar, the Kirtle, and the Sark, all three of which enter the Solway—the Lochar between the mouths of the Nith and the Annan,

* Prior to 1756, each of these tracts had a distinct jurisdiction.—See *ante*, p. 505, note.

the Kirtle and the Sark to the eastward of the Annan, intermediate between that river and the mouth of the Esk. The Sark is only important as marking for a few miles the Scotch and English border.*

The *geology* of Dumfriesshire exhibits most prominently the strata that predominate over a large area of southern and south-western Scotland, that is, greywacke and allied rocks of the Silurian period. Several other formations, however, enter into the geology of the county. In the south, an extensive area along the shore of the Solway, and reaching from 12 to 15 miles up the valley of the Nith, belongs to the new red sandstone formation of Cumberland. The same rock appears within the Nith valley, farther north (about Thornhill), and also in the middle portion of the valley of the Annan, in the neighbourhood of Lochmaben, and thence northward. A belt of country which stretches from the western side of Annandale (above the town of Annan) over the middle part of Eskdale, and which includes nearly the whole of Liddisdale, belongs to the carboniferous area of Northumberland and the adjacent English counties: limestone is abundant within this tract, and is worked in parts of Annandale. Coal is worked at Canonbie, in Eskdale.

The coal formation of Ayrshire stretches into the north-western part of the county of Dumfries, extending down Upper Nithsdale to some distance below the town of Sanquhar. Coal is worked in several localities within this tract. Lead-mines are worked at Wanlockhead, on the northern border of the county, near the Louthers Hills.† Silver is extracted from the lead. Copper ore, manganese, antimony, ironstone, and gypsum, are met with in various parts of the county. There are mineral waters at Moffat, in the upper part of Annandale, and also in several other localities. One of the Moffat springs is sulphureous: another (five miles distant from Moffat, towards Hart Fell) has chalybeate properties.

Dumfriesshire is chiefly an agricultural county. The rearing of cattle and sheep are carried on upon a scale of great extent. Pigs are also numerously reared, and hams and bacon are extensively supplied to the Liverpool, London, and other markets. The culture of oats and potatoes forms the most important branch of arable husbandry. An active trade is carried on by the various shipping ports of the Solway Firth. The cotton and woollen manufactures, especially that of woollen stockings, is pursued in the town of Dum-

* Historically, the Sark is noteworthy for an encounter, in 1448, between the English and Scotch, in which the former were defeated. East of the Sark (and within the English border) is the tract of the Solway Moss, the scene of the rout of James V.'s army, in 1452.

† The village of Leadhills, near which the principal lead-mines are situated, is within the Lanarkshire border.

fries, and also in the smaller towns and populous villages of the county.

Dumfriesshire includes 43 parishes. It contains the following towns:—

	Pop.		Pop.		Pop.
DUMFRIES .	14,023	ANNAN .	3,473	LOCHMABEN	1,194
Thornhill .	1,450	Lockerbie .	1,709	Moffat .	1,462
SANQUHAR .	1,754			Langholm .	

Dumfries, Annan, Lochmaben, and Sanquhar are parliamentary burghs, and (together with Kirkcudbright, in the adjacent shire) unite in the return of a single member. The county of Dumfries returns one member.

The county-town, *Dumfries*, stands on the east bank of the Nith, nine miles above the mouth of the river: it is a thriving seat of trade, and constitutes a sort of provincial capital for the south of Scotland. The tomb of Burns is contained in one of its churchyards. Dumfries is a considerable market for the agricultural produce of the adjacent parts of Scotland, which it exports in large quantities. *Sanquhar*, in the valley of the Nith, is 27 miles N.W. of Dumfries.

Annan, 16 miles to the eastward of Dumfries, is a small sea-port at the mouth of the river of that name. *Lockerbie*, *Lochmaben*, and *Moffat* are all within Annandale. Lochmaben is nine miles to the N.E. of Dumfries, and in the immediate neighbourhood of several small lakes, beside the most considerable of which its ancient royal castle was situated. *Moffat*, which derives celebrity from its mineral springs, is near the head of Annandale. *Langholm* is the principal place within Eskdale.

9. KIRKCUDBRIGHT, a maritime county (or, properly, stewartry), has an area of 610,343 acres, or 954 square miles. Its coast-line, upwards of 50 miles in length, extends along the Solway from the mouth of the Nith westward to the head of Wigton Bay, and includes the smaller estuaries of the Urr and Dee rivers. Portions of its inland frontier are marked by the rivers Nith and Cluden on the east; by the stream of the Cree (which falls into Wigton Bay) on the west; and by the upper course of the Doon, with Loch Doon, on the north-west.

The larger part of Kirkcudbright has an irregular and often rugged surface, which rises to the northward, towards the borders of Dumfriesshire and Ayrshire, into high mountains. Among its most considerable elevations are the hills known respectively as Cairnsmuir of Deugh (2,597 feet), and Cairnsmuir of Fleet (2,331 feet) — the former within the northern part of the county, on the

west side of Ken Water, the latter twenty miles farther south, and only distant a few miles from the head of Wigton Bay: together with Criffel (1,830 feet), near the entrance of the Nith. Black Larg, at the junction of the counties of Kirkcudbright, Ayr, and Dumfries, has been already referred to.

The most considerable river of Kirkcudbright is the Dee, which drains a much larger portion of its area than any other stream. The Dee rises within the county, and has a general south-eastwardly course until its junction with the Ken. The latter derives its waters from a more distant source, and has a longer channel than that of the Dee above the point of junction. The Ken forms, below the town of New Galloway, the long and narrow lake called Loch Ken, with which the similar but still narrower body of water called Loch Dee is continuous. Below Loch Dee the river turns to the southward, and flows into Kirkcudbright Bay.

Among the smaller rivers of Kirkcudbright are the Urr and the Fleet—the former to the eastward, the latter on the western side of the Dee. The Urr flows into Rough Firth, a little westward of which is Auchencairn Bay. The Fleet enters Fleet Bay. The river Cree is on the western border of the county. Besides Lochs Ken and Dee, there are numerous other lakes, mostly of small size, within Kirkcudbright. The upper portion of Loch Doon, which is of considerable size, adjoins the western border of the county.

The *geology* of Kirkcudbright exhibits, almost throughout, the primary limestone or greywacke of the Silurian era. Ores of both lead and copper occur in various parts of these strata, but have only been worked to a small extent. Granitic rocks are found in several distinct portions of the county, three of the tracts so constituted covering a large area. Two of these spaces, both of them composed of true granite, are found to the westward of the Dee—one in the neighbourhood of New Galloway, the other adjoining the Ayrshire border. The third, which is composed of syenite, includes Criffel, beside the mouth of the Dee. Porphyry occurs near the left bank of the Dee, a short distance above its outlet. Both coal and lime are imported from the opposite side of the Solway Firth.

Kirkcudbright is a thinly populated county—though less so than either Selkirk or Peebles. Its industry is almost exclusively agricultural. Oats and turnips form extensive crops, and great numbers of cattle are reared. A few persons are engaged in the lead-mines.

The county includes 28 parishes. It contains the towns of Kirkcudbright, New Galloway, and Castle Douglas, the two former of which are parliamentary boroughs, the first-named belonging to the Dumfries district of boroughs, the second associated with Wigton. The county of Kirkcudbright returns one member. Its towns are:—

	Pop.		Pop.		Pop.
KIRKCUDBRIGHT	2,552	CASTLE DOUGLAS	2,261	Gatehouse	1,635
NEW GALLOWAY	462			Creetown	969

The town of *Kirkcudbright* lies at the head of the estuary of the Dee, which forms *Kirkcudbright Bay*. *Castle Douglas*, 9 miles distant from *Kirkcudbright*, in the direction of N.N.E., lies a short distance from the left bank of the Dee, and on the line of railway which connects *Dumfries* with the south-western extremity of Scotland. *New Galloway* is situated near the head of *Loch Ken*. *Gatehouse* is a shipping village on the little river *Fleet*, which discharges into *Fleet Bay*. *Creetown* is near the head of *Wigton Bay*.

10. WIGTONSHIRE, a maritime county, in the extreme S.W. of Scotland, has an area of 327,906 acres, or 512 square miles. Its extensive coast-line includes the large openings of *Luce Bay*, with the western side of *Wigton Bay*, on the side of the *Irish Sea*; and the smaller estuary of *Loch Ryan*, upon the opposite side of the county. The coast-line between *Luce Bay* and *Loch Ryan* fronts the *North Channel*. The conspicuous headlands called the *Mull of Galloway*, *Corsewall* (or *Corsill*) *Point*, and *Burrow Head*, belong to this county. The first-named of these is the most southwardly point of Scotland.

The surface of *Wigtonshire*, though generally undulating and diversified, is only of moderate elevation. The highest eminences appear to fall short of 900 feet. These are chiefly within the northern portion of the county.

Wigtonshire consists naturally of three divisions—two peninsulas, and a portion of mainland. The westernmost of the peninsulas (that lying west of a line drawn between *Loch Ryan* and *Luce Bay*, which are less than 6 miles apart) is known locally as the *Rhynns*: this is only of moderate height, and includes a great deal of fertile arable land. The more eastwardly peninsula, between *Luce* and *Wigton Bays*, called the *Machers*, or flat country, is more generally level, and is also to a large extent under the plough. The remaining portion of the county, known as the *Moors*, is hilly, and in many parts bleak and barren.

The principal rivers of *Wigtonshire* are the *Cree*, the *Bladenoch*, and the *Water of Luce*. The *Cree* divides the counties of *Wigton* and *Kirkcudbright*, and falls into the head of *Wigton Bay*. The *Bladenoch* discharges into the same bay, on its western side. The *Water of Luce* falls into *Luce Bay*. The *Cree* and *Bladenoch* are navigable for a few miles above their outlets. There are numerous small lochs within the county.

Geology.—Nearly the whole of the rock formations of Wigtonshire belong to the Silurian era. Greywacke, and various slaty and schistose rocks, prevail throughout. A few small and detached masses of granite occur, in distant localities, and a narrow tract of new red sandstone stretches along the western shore of Loch Ryan.

Though thinly peopled as compared with the manufacturing portions of the kingdom, Wigtonshire is more populous than many of the other counties of southern Scotland. Its industry is chiefly agricultural, and a large proportion of the soil is under the plough. Turnips are very extensively grown. Cattle are numerous reared within the moorland division of the county.

Wigtonshire includes 17 parishes. It contains the under-mentioned towns, three of which—Wigton, Stranraer, and Whithorn—are parliamentary burghs, and unite with New Galloway (Kirkcudbrightshire) in the return of a single member. The county of Wigton returns one member:—

	Pop.		Pop.		Pop.
WIGTON .	2,027	WHITHORN .	1,623	Port Patrick	1,206
NEWTON		STRANRAER .	6,274	Glenluce .	1,013
STEWART .	2,535			Garlieston .	685

Wigton, the county-town, lies on the west shore of Wigton Bay, near the mouth of the river Bladenoch. *Garlieston* is a shipping village on Wigton Bay, about 5 miles S.E. of the town of Wigton. *Whithorn*, 10 miles S. of Wigton, is a place of great antiquity, and was formerly a bishop's see, one of the oldest in Scotland. *Newton Stewart* is on the left bank of the Cree, 7 miles above its mouth. *Stranraer*, the largest town in the county, lies at the head of Loch Ryan, and has considerable shipping trade. *Port Patrick* derives some importance from its proximity to the Irish coast, which is only 22 miles distant.

11. **AYRSHIRE**, a maritime county, in the south-west of Scotland, has an area of 735.262 acres, or 1,149 square miles. It exceeds any other of the strictly lowland counties in point of magnitude.

The coast-line of Ayrshire extends for 75 miles along the broader portion of the Firth of Clyde, curving to the eastward in a semicircular recess, about the middle of which is the mouth of the river Ayr, with the town of that name. The inland boundary of the county is marked, for the most part, by high grounds which divide the rivers of Ayrshire from those that belong to the adjacent counties: hence Ayrshire, as a whole, forms a kind of natural basin, shaped like an amphitheatre, and curving towards the Firth of Clyde, into which the whole of its waters are discharged.

Ayrshire has great variety of surface, its higher portions being situated, for the most part, within its inland districts, on the east and north. Some of the high grounds, however, approach close to the coast: among these are Knockdolian (in the S.W. part of the county, between the sea and the mouth of the Girvan river), 1,950 feet; Brown Carrick, 924 feet, towards the mouth of the Doon; and the Mistie Law, 1,240 feet, on the border of Ayr and Renfrew, near the extreme north of the former county. Knipe Hill, 1,260 feet; Black Larg, 2,890 feet; Black Crag, 1,600 feet; Cairntable, 1,949 feet; Blackside End, 1,549 feet; and Distincthorn, 1,100 feet; are on or near the inland border-line of the county—the three first-named on the side of Kirkeudbright and Dumfriesshire, the others on the side of Lanarkshire. Many fine plains occur in proximity to the coast, between which and the mountains of the more distant interior the ground is generally hilly.

The chief rivers of Ayrshire (enumerated from south to north) are—the Stinchar, the Girvan, the Doon, the Ayr, the Irvine, and the Garnock. The Ayr, which is the most considerable, is joined by the Lugar on its left bank. The Garnock unites with the Irvine near the outlet of the latter, and forms with it a small estuary. Kilbirnie Loch, in the N.E. part of the county, has its outlet to the northward, towards the adjoining county of Renfrew. Loch Doon, on the S.E. border (and the larger portion of it within the county), belongs to the valley of the river Doon, which issues from its lower extremity.

The *geology* of Ayrshire is exceedingly varied, and its mineral productions are of high value. The southern extremity of the county falls within the Silurian era. Its middle and northwardly divisions include extensive coal-fields; these are divided by trap (or whinstone), which covers large portions of the surface of the county, and also by some extensive areas which belong to the old red sandstone, or Devonian, period. Of the last-mentioned strata, the more southwardly extend between the rivers Doon and Girvan, including the lower course of the latter. The more northwardly of the red sandstone areas lies principally to the north of the river Ayr, and extends over the eastern border of the county, into Lanarkshire. The same formation appears upon the northern portion of the Ayrshire coast, from the neighbourhood of Ardrossan northward.

The coal of Ayrshire is extensively worked, principally in the neighbourhood of the coast, from the town of Ayr northward, and is exported largely to Ireland and the Western Islands of Scotland. Ironstone of good quality abounds within the carboniferous area, and is extensively worked in several localities—especially at Muirkirk, near the eastern border of the county, and about Kilwinning, Kilbirnie, and other places, within its northern division. Lead,

plumbago, antimony, and copper, also occur within the county. There is abundance of limestone, and good freestone is quarried for building purposes. Whinstone and puddling-stone are also employed for like uses. The well-known Water of Ayr stone, used as a whetstone, is derived from the banks of the Ayr.

Ayrshire is a mining and manufacturing county, besides possessing a large amount of agricultural industry. Its northern and middle divisions, which are within the coal area, include the chief seats of its manufactures. The southern half of the county is more generally agricultural. The northern part of Ayrshire (from the town of Kilmarnock northward to the border of Renfrew) shares largely in the manufacturing industry of the lower Clyde valley, and contains a great number of busy manufacturing towns and populous villages. The various branches of the cotton and woollen manufacture are pursued on a scale of great extent, especially that of woollen stockings. The weaving of muslins is largely pursued. Bleaching works, in connection with the cotton trade, are numerous: woollen bonnets and serges, together with shawls and carpets, are also largely made. The leather manufacture is another important branch of industry, and tanneries are numerous. The coal-mines and iron-works employ great numbers of the population, and the shipping ports along the coast, especially from Ayr northward, exhibit scenes of the most active industry.

Ayrshire includes 46 parishes. It was formerly divided into the three districts of Carrick, Kyle, and Cunningham—names which are still in familiar use, though they have no legal recognition. Carrick includes that portion of the county which is to the south of the river Doon: Kyle, the tract lying between the Doon and Irvine rivers: and Cunningham, the district north of the Irvine.* The towns and considerable manufacturing villages of Ayrshire are:—

* A popular distich, well known in the south of Scotland, indicates the relative capabilities of these tracts of country:

“ Kyle for a man,
 Carrick for a cow,
 Cunninghame for butter and cheese,
 And Galloway for woo (wool).”

Galloway is the country immediately to the south of Ayrshire, that is, the counties of Kirkcudbright and Wigton. Steam has added its stupendous powers to the industrial resources of Ayrshire, and the country on either side of the Irvine is now a busy scene of manufacturing industry, in which steam-engines, coal-mines, and railways play their usual part. Yet Cunningham is still famous for its fine cheeses, made in Dunlop and its neighbourhood, and the agricultural produce of other parts of the county is very considerable.

	Pop.		Pop.		Pop.
AYR . .	18,573	NEWMILNS	2,313	DALRY . .	4,232
Mauchline . .	1,414	STEWARTON	3,145	BEITH . .	3,420
CUMNOCK . .	2,316	SALTCOATS .	4,778	KILBIRNIE .	3,245
TROON . .	2,427	ARDROSSAN	2,896	MAYBOLE .	4,115
KILMARNOCK	22,619	LARGS . .	2,638	GIRVAN . .	5,921
IRVINE . .	7,060	STEVENSTON	2,704	Dalmellington	1,299
GALSTON . .	3,228	KILWINNING	3,921	Dunlop . .	330

Ayr, Irvine, and Kilmarnock, are parliamentary burghs ; the two former, conjointly with Campbeltown, Inverary, and Oban (in the county of Argyle) return one member. The town of Kilmarnock, conjointly with Dumbarton, Port Glasgow, Renfrew, and Rutherglen, also returns a single member. The county returns one member.

Ayr, which ranks as the capital of the county, stands at the mouth of the river Ayr, upon its southern bank. It has considerable shipping trade, chiefly with Ireland ; its fishery is less extensive now than formerly. *Newton-on-Ayr*, a populous suburb, is on the opposite or north side of the river. Burns was born on the banks of the Doon, two miles to the southward of Ayr, the neighbourhood of which place is rich in memorials of the poet and his works.

To the north and south of Ayr the coast has a semicircular sweep, enclosing a fine bay, upon the shores of which are several small fishing and seaport towns. Northward of Ayr are, in succession, Troon, Irvine, Saltecoats, Ardrossan, and Largs, the last famous in history for a victory gained by the Scots over a Norwegian army, in 1263. *Irvine* is a considerable seaport, near the mouth of the river Irvine. Coal is largely shipped from several of the Ayrshire ports.

Kilmarnock, the largest town in the county, is 12 miles to the north-eastward of Ayr, and 20 miles (in a direct line) S.W. of Glasgow. It stands beside a small affluent of the river Irvine, and is the centre of a populous and busy tract of country, connected by railway with the manufacturing district farther to the northward, as well as (in the opposite direction) with the valley of the Nith and the English border. *Galston*, which has cotton-weaving and coal-mining industry, is 5 miles to the E. by S. of Kilmarnock. *Newmilns*, the inhabitants of which are similarly employed, lies at a farther distance of 2 miles, in the same direction. *Kilmaurs*, a decayed burgh, is 2 miles N.W. of Kilmarnock. *Stewarton*, a thriving seat of the woollen, worsted, and carpet manufactures, is 6 miles N. by W. of Kilmarnock, on the stream of the Annock, an affluent of the Irvine. Dunlop is 2 miles farther northward. Kilwinning, Dalry, and Kilbirnie, all seats of manufacturing industry, are farther to the north-westward.

Maybole and *Girvan* are to the southward of Ayr, the last-named at the outlet of the river called by its name.

Ailsa Craig, an insulated mass of trap, rising to 1,140 feet above the level of the sea, within the broader portion of the Firth of Clyde, and 9 miles distant from the coast of the mainland, belongs to Ayrshire.

12. LANARKSHIRE, or Clydesdale, an inland county, has an area of 568,867 acres, or 889 square miles. Its shape is irregular, but coincides for the most part with that of the upper and middle portions of the Clyde basin, to which nearly the whole county belongs. The greatest extension of the county is hence in the direction of south-east and north-west. Its frontier is for the most part marked by the high grounds which divide the affluents of the Clyde from the streams that belong to the basins of the Ayr, Nith, Tweed, and other rivers of the adjoining counties. At a few points, however, the boundary of Lanarkshire passes the limit of the watershed between the Clyde and the adjacent river-basins, while it elsewhere falls short of that limit. Yet there is no county of Scotland which, upon the whole, more thoroughly coincides with a distinct natural region than does Lanarkshire with upper and middle Clydesdale.

The surface of Lanarkshire is very diversified. The southern division of the county is exceedingly elevated, consisting for the most part of lofty hills and moorlands. Queensberry Hill (2,259 feet), near the source of the Clyde, is at the extreme southern point of the county, and on the border of Dumfries. The Louthers Hills, 2,522 feet, on the western side of the Clyde valley, and Tomont Hill, on the opposite side of the river, are both within the most southwardly extension of the county—the former immediately adjacent to the Dumfriesshire border. Tinto Hill, 2,308 feet, a detached mass of trap, is near the west bank of the Clyde, several miles farther down its valley. Cairntable, 1,949 feet, is on the Lanarkshire and Ayrshire border. Eldrig Hill, 1,600 feet (at the source of the White Cart river), is on the border of Lanark and Renfrew. The Pentland Hills penetrate the opposite border of the county, on the side of Edinburghshire.

From the high grounds that belong to its more southwardly division, or mark its border-line in that direction, the surface of Lanarkshire declines gradually to the north-westward, a large portion of it exhibiting hills of moderate height, with elevated moors—the latter throughout of considerable extent.

The chief river of Lanarkshire is the Clyde, which rises within its limits, and to the basin of which nearly the whole county belongs.

The principal affluents of the Clyde, within Lanarkshire, are the North and South Medwin, the Mouse Water, the South Calder, the North Calder, and the Kelvin, on its right bank; the Duneaton, Douglas, Nethan, and Avon, on its left bank. The White Cart, which flows along part of the county border, falls into the Clyde (after its junction with the Black Cart), below Glasgow, and within Renfrewshire. The Kelvin forms for some miles the boundary between the counties of Lanark and Stirling.

The *geology* of Lanarkshire exhibits great variety. The extreme south and south-east of the county are within the Silurian area. The lead-mines in the neighbourhood of Leadhills (on the west side of the upper Clyde valley, and closely adjacent to the Dumfriesshire border), together with considerable quarries, are within this district. With the exception of this tract, nearly the whole county is within the carboniferous area, and, besides an inexhaustible supply of coal, furnishes excellent ironstone. A tract of country which extends over both banks of the Clyde, above the town of Lanark, and thence (with some interruption) to the south-westward, towards the border of the county in that direction, belongs to the old red sandstone formation: this is succeeded to the eastward by trap, to which latter the group of the Tinto Hills belong. Trap also appears both towards the western and northern borders of the county. These areas of sandstone and trap partially divide the various coal-beds, which are worked upon the most extensive scale in several parts of the county, as also are its abundant deposits of iron ore. The Wilsontown iron-works, towards the N.E. border of the county (9 miles N.N.E. of Lanark), are immediately adjacent to coal-beds of the highest value. The Shotts iron-works are farther to the N.W. Still farther west, the tract of country lying between Airdrie and Glasgow is richly abundant in coal and iron, besides other valuable minerals—amongst them limestone, and several kinds of good building-stone.

Lanarkshire is among the most thickly populated of the Scotch counties. Its lower or north-western extremity (in which Glasgow is situated) includes, indeed, the great centre of Scotch manufactures and wealth. The tract of country lying immediately around Glasgow rivals the busiest localities of England in the density of its population. Middle and Upper Clydesdale—the latter especially—are much less fully populated, and the tract of country lying above the town of Lanark is chiefly a pastoral region. Lanarkshire and the adjacent county of Renfrew comprehend the most strictly manufacturing portion of Scotland. Within the agricultural portions of the county, pasturage and dairy-farming are more generally pursued than arable husbandry.

The county of Lanark includes 52 entire parishes, with portions of 5 others. It is divided into three districts or wards, known as the Upper, Middle, and Lower Wards. These correspond to the respective portions of the Clyde basin, Glasgow being within the Lower Ward. The towns included within Lanarkshire are :—

	Pop.		Pop.		Pop.
LANARK .	5,048	AIRDRIE .	12,918	Douglas .	1,426
GLASGOW .	394,857	HAMILTON .	10,688	CARLUKE .	3,111
RUTHERGLEN	8,474	STRATHAVON	4,085	Biggar .	1,448

The first five of the above are parliamentary burghs. Glasgow, which is a city, returns two members. The towns of Hamilton and Lanark, conjointly with Airdrie, Falkirk, and Linlithgow, return one member. The town of Rutherglen is associated in the return of a member with Kilmarnock, Port Glasgow, Renfrew, and Dumbarton. The county returns one member.

Lanark, near the right bank of the Clyde, within the middle portion of its course, is the county-town of Lanarkshire. It is situated in the immediate neighbourhood of the falls of the Clyde. Corra Linn, the most considerable of the falls (84 feet), is about two miles above Lanark; Bonnington is a short distance higher up the stream. The fall of Stonebyres, the lowest in position, is a mile and a half below the town.

Glasgow, on the lower Clyde, is the real capital, not merely of Lanarkshire, but—in so far as wealth and population are concerned—of Scotland at large. Glasgow is 43 miles to the W. by S. of Edinburgh, and is 400 miles distant from London by railway. The larger part of the city lies on the north bank of the Clyde, but there is an extensive suburb to the south of the river, which is crossed by five bridges. The banks of the Clyde are lined by fine quays, and Glasgow contains many magnificent public edifices. The older parts of the town, however, are very closely built. The navigation of the Clyde, formerly impeded by many obstructions, has been so much improved that vessels of 1,000 tons burthen can now reach the quays of the city. Glasgow possesses a University, of high repute as a seat of learning.

Airdrie, eleven miles to the east of Glasgow, is situated in the heart of the coal-district, and is a thriving town, surrounded by collieries and iron-works. *Hamilton* is a small town near the confluence of the river Avon with the Clyde, upon the south bank of the latter river. It was the scene of the defeat of a body of Covenanters under Colonel Kerr, by a body of Cromwell's cavalry, in 1650. Bothwell Bridge, on the Clyde, only two miles distant, witnessed in 1679 a more important conflict—the sanguinary skirmish (well

known to the readers of "Old Mortality") in which the Covenanters were defeated by the royal forces under the command of the Duke of Monmouth.

Strathavon, a small manufacturing town on the river Avon, is 7 miles S. of Hamilton, and 15 miles distant from Glasgow, in the direction of S.E. Upon the moors lying to the south-westward of Strathavon, and about five miles distant from that place, is Drumclog, where the dragoons of Claverhouse were routed by the Covenanters a few months prior to the battle of Bothwell Bridge (1679). Loudoun Hill, the name of which is sometimes applied to this fight, is a short distance W. of Drumclog Moor, and on the Ayrshire border. The village of *Douglas*, 8 miles S. by W. of Lanark, is beside the stream of the Douglas.*

13. RENFREWSHIRE has an area of 158,268 acres, or 247 square miles. It borders in the west and north-west upon the narrower portion of the Firth of Clyde, and stretches thence inland in a south-eastwardly direction. The stream of the White Cart, which marks part of its eastern border, divides the counties of Renfrew and Lanark. Along its southern border-line, the high grounds which limit the basin of the Clyde in that direction coincide for the most part with the county limits.

The surface of Renfrewshire is more generally level than is the case with the other counties of southern Scotland. It is only towards the west and south, near the Ayrshire border, that the ground becomes hilly, and even there the elevations are comparatively moderate. The Mistie Law, 1,240 feet, lies on the Renfrewshire and Ayrshire border. Farther eastward the hill called Neilston Pad (9 miles S.W. of Glasgow, and only a short distance from the manufacturing village of Neilston), is 820 feet high. Within the south-eastern angle of the county are the Hills of Ballangeich, 1,012 feet, and Dunewan, 1,000 feet high. The tract of country lying along the Clyde is generally flat.

Renfrewshire is entirely within the basin of the Clyde. Its chief streams are the White and Black Cart, the Gryfe Water, and the Kipp Water. The White Cart and the Black Cart—the former flowing from the eastward, the latter from the middle and westerly divisions of the county—unite their waters between two and three miles north of Paisley, and the joint stream thence flows into the Clyde, after a farther course of less than a mile. The White Cart

* The remains of the old castle of Douglas—the "Castle Dangerous" of Sir Walter Scott—are adjacent to the village.

receives on its way (and several miles above the junction) the streams of the Shaws Burn, and the Lavern Water. The White Cart has been made navigable up to the town of Paisley, for vessels of 180 tons burthen. The Black Cart issues from Kilbirnie Loch, within the county of Ayr, and flows thence northward (through the valley of Lochwinnoch) into Castle Semple Loch, which latter is within Renfrewshire. The Gryfe Water brings with it several small affluents, which drain the moors that are within the more westerly portion of the county. The Kipp Water, which flows into the Firth of Clyde, to the westward of Cloch Point, is connected with some small lochs, which serve as reservoirs for the supply of water to the town of Greenock.

The larger portion of Renfrewshire belongs, *geologically*, to the carboniferous area of southern Scotland, within which the whole tract of country lying upon either side of the lower and middle Clyde is included. Both coal and iron are extensively worked in many parts of this district. Limestone is abundant within the same area, and good building-stone is quarried. The rest of the county, embracing all the more hilly country along its southern border, is principally trap. Old red sandstone (Devonian), of the upper series, appears in the extreme west and north-west, along the estuary of the Clyde.

Renfrew is altogether a manufacturing and trading county, more densely populated, in proportion to its extent, than any other county of Scotland. Its extensive factories (at Paisley and elsewhere) for the production of cotton, silk, and mixed silk and woollen fabrics, shawls, plaids, scarfs, chenille, crape, &c., account for this. In the agricultural portion of the county, a much larger area is devoted to dairy-farming and pasturage than to arable husbandry. The demands of the large population of Paisley, Greenock, Glasgow, and other towns, on the resources of the farmer in this respect (for milk, butter, &c., besides meat) are very great. Hence, also, a great deal of land is employed as market-garden ground.

The county of Renfrew includes 20 entire parishes, with portions of 4 others. Its towns and principal villages are:—

	Pop.		Pop.		Pop.
RENFREW .	3,228	JOHNSTONE	6,404	NEILSTON .	1,982
PAISLEY .	47,406	LOCHWINNOCH	1,910	POLLOCKSHAW	7,648
GREENOCK .	42,100	KILBARCHAN	2,530	NEWTON MEARNS	718
PORT GLASGOW	7,214			GOUROCK .	2,076

Renfrew, Paisley, Greenock, and Port Glasgow, are parliamentary burghs. Greenock and Paisley each return one member. Renfrew and Port Glasgow are associate burghs of Kilmarnock. The county of Renfrew returns one member.

The county-town is *Renfrew*, near the left bank of the Clyde, which, however, is an unimportant place in other respects. The principal place in Renfrewshire is *Paisley*, a populous town on the banks of the White Cart river, seven miles to the west by south of Glasgow. Paisley is, next to Glasgow, the most important manufacturing town on the western side of Scotland, and, besides its silk and cotton mills, has distilleries, copperas-works, bleach-fields, coal-pits, &c. Vessels of sixty tons can come up to the town, partly by the river and partly by a canal from the Clyde.

Johnstone, three miles W. by S. of Paisley (and near the Black Cart river), has numerous cotton-mills, besides brass and iron foundries, and machine manufactories. *Pollockshaws*, a manufacturing town, 3 miles S.W. of Glasgow, is situated on the White Cart, at the point where it is joined by the Shaws Burn. Near Pollockshaws, on its eastern side, and little more than 2 miles to the south of Glasgow, are the little village and battle-field of Langside, where the adherents of Mary Queen of Scots fruitlessly exhibited — for the last time in the open field — their devotion to her cause (A. D. 1568).

Greenock, on the south bank of the Clyde (below Port Glasgow, and 22 miles to the north-west of Glasgow), is a large and flourishing seaport. It possesses a good harbour and docks, and has considerable maritime commerce. Sugar-refining is carried on at Greenock to a large extent. *Port Glasgow* is between 2 and 3 miles to the eastward of Greenock. About 2 miles west of Greenock is the sea-bathing town of *Gourock*, situated at the opening of the river Clyde into the firth of that name.

II. NORTHERN LOWLANDS.

14. DUMBARTONSHIRE, a maritime county, has an area of 204,800 acres, or 320 square miles. It comprehends two distinct portions, the smaller and more eastwardly of which is wholly inland, and is enclosed between the counties of Stirling and Lanark. This detached portion of Dumbartonshire is divided from the main body of the county by an intervening tract which is four miles across.

The western and larger portion of Dumbartonshire lies along the right bank of the Clyde, and stretches from the estuary of that river northward to the upper extremity of Loch Lomond, by which it is bordered to the eastward. Loch Long borders this portion of the county upon its western side. The smaller estuary called the Gare Loch, situated a short distance east of Loch Long, and extending in the same general direction as that body of water, is within the county, and is an offset from the Clyde estuary. The

peninsula of Roseneath is enclosed between the waters of Loch Long and the Gare Loch.

The surface of Dumbartonshire is exceedingly varied. The north-western extremity of the county falls within the Highland region, and exhibits scenery of the wildest description. The larger portion of the county, however, belongs to the Lowlands.

The eastwardly and detached portion of Dumbartonshire is altogether lowland: its surface is either level or undulating, and only moderately elevated. The western portion of the county is of similar character towards the south and east, along the banks of the Clyde, and round the southern extremity of Loch Lomond. Within this area, however, are the Kilpatrick Hills (a few miles N.E. of the town of Dumbarton), and the high rock upon which Dumbarton Castle stands. That portion of the county which lies to the west of Loch Lomond, from the neighbourhood of Luss northward, is thoroughly highland in character of surface, as well as in geological formation. Ben Voirlich, towards the extreme north of this region, attains a height of 3,160 feet, and several summits amongst the mountains of Arroquhar, farther to the south, reach 3,000 feet and upwards. Fuinart Hill, near the head of Glen Fruin (and closely adjacent to the eastern shore of Loch Long), is said to be 2,500 feet. Nearly the whole tract, indeed, lying between Loch Lomond and the shore of Loch Long is filled by heath-covered hills, which rise in elevation to the northward, where they display the wilder features of mountain scenery. The hills which run through the peninsula of Roseneath are only of moderate elevation (the highest not exceeding 800 feet), and exhibit a softer aspect.

The chief river of Dumbartonshire is the Clyde, by which the county is bordered to the southward. The Leven, which issues from the lower end of Loch Lomond, and joins the Clyde at Dumbarton, is next in importance. The Kelvin, which joins the Clyde a short distance below Glasgow, marks part of the border between the detached eastern portion of Dumbartonshire and the adjoining county of Stirling, and afterwards touches the border of the more westerly division of the county. Numerous small streams water the mountain glens which adjoin Loch Lomond.

Loch Lomond lies on the border of Dumbarton and Stirling; the numerous islands within it belong mostly to the former county. Several small fresh-water lakes are within the county, some of them amongst the Kilpatrick Hills, others within the elevated tract to the west of Loch Lomond.

In its *geology*, Dumbartonshire exhibits a variety correspondent to its inequalities of surface. Its eastern and detached portion falls within the carboniferous area, and both coal and limestone are worked

at Cumbernauld and Kirkintilloch, in that part of the county. Ironstone occurs in the same district. The extreme eastern part of the larger division of Dumbartonshire (from West Kilpatrick, on the Clyde, to the eastern border) also belongs to the coal formation, and includes coal-mines and lime-works. The carboniferous limestone is succeeded to the westward by trap, of which the Kilpatrick Hills are composed, and to which the banks of the Clyde, between West Kilpatrick and the town of Dumbarton, belong. The trap of this district exhibits in some localities columnar basalt and greenstone. Westward of the trap there follows an extensive belt of old red sandstone (Devonian), within the area of which the southern shores of Loch Lomond, and the valley of the Leven, are included. The south-eastern extremity of the peninsula of Roseneath belongs to this formation. All that portion of Dumbartonshire which lies west of the old red sandstone area (i.e. all to the west of a line drawn from immediately below Helensburgh, in a direction of N.E., to the western shore of Loch Lomond, a little below the village of Luss) consists of primary rocks. Clay-slate immediately succeeds the strata of old red sandstone, forming a narrow belt of not more than three miles across: this is followed by mica-slate, which occupies the surface of all the remainder of the county — that is, of all its more mountainous and strictly highland division. The mica-slate is often of quartzose character, and is traversed by dykes of whin and greenstone. The clay-slate is quarried in some localities, as at Camstraddan, on the shore of Loch Lomond, near Luss. The clay-slate extends across the southern part of the Roseneath peninsula, there, as elsewhere, intervening between the old red sandstone and the mica-slate.

Notwithstanding the mountainous character of a portion of its surface, Dumbartonshire is chiefly a manufacturing county. It ranks high in the list of Scotch counties with respect to comparative density of population, its inhabitants numbering 163 to the square mile.* It is to the eastern and southern divisions of the county that its manufacturing and commercial industry belongs. The valley of the Leven, especially, has within the last thirty years become a busy scene of artisan labour. Calico print-works and bleach-fields line the banks of the Leven through great part of its course, the softness and purity of its waters rendering them well adapted to usage in connection with those branches of industry. This part of Dumbartonshire, and the more eastwardly portion of the county, form, in fact, outlying portions of the wide-spread manufacturing area of which Glasgow constitutes the centre.

* See Table, p. 499.

Dumbartonshire includes 12 parishes, one of which is only partly within the county. The town of Dumbarton is a parliamentary burgh, and unites with several other places in the return of a member.* The county returns one member. The principal towns and villages are:—

	Pop.		Pop.		Pop.
DUMBARTON	8,253	ALEXANDRIA	4,242	KIRKINTILLOCH	6,096
BONHILL .	2,765	HELENSBURGH	4,613	Cumbernauld	1,561
		DUNTOCHER	2,360		

Dumbarton, the capital of the county, stands on the north bank of the Clyde, at the point where that river is joined by the Leven, 13 miles to the north-west of Glasgow. Dumbarton is a place of great antiquity — the former capital of the kingdom of Strathclyde.† Its fine castle, built upon a lofty rock which rises to a height of between five and six hundred feet above the plain, and formerly a place of great strength and importance, forms a conspicuous object in the scenery of the Clyde. The rock on which the castle stands is nearly surrounded by the waters of the river. Dumbarton Castle played a conspicuous part in the early and troublous annals of Scotland, and has sustained numerous sieges. Within its arsenal, among many other objects of interest, is preserved the sword of Wallace. Both *Bonhill* and *Alexandria* are within the Leven valley, to the northward of Dumbarton. *Duntocher* is 6 miles to the south-eastward of Dumbarton, about midway between that town and Glasgow, and near the village of West (or Old) Kilpatrick, the terminus of the Roman Wall.

Some miles below Dumbarton is the estuary called the Gare Loch: upon the eastern shore of this is the pretty sea-bathing town of *Helensburgh*. The peninsula of Roseneath, which intervenes between the Gare Loch and Loch Long, contains numerous villas, the occasional resort of the wealthier citizens of Glasgow.

Kirkintilloch, a manufacturing town in the eastern portion of the county, is at a distance of 7 miles from Glasgow, in a north-easterly direction, and near the left bank of the Kelvin river. Its inhabitants are chiefly engaged in weaving.

15. STIRLINGSHIRE, an inland county, has an area of 295,875 acres, or 462 square miles. It extends, in the direction of east and west, from the mouth of the Forth to the eastern shore of Loch Lomond. The river Forth, and its affluent, the Duchray Water, form for the most part the border-line of the county on its northern side. The Kelvin,

* See *ante*, p. 529.

† See *ante*, p. 99.

an affluent of the Clyde, and the Avon, a tributary of the Forth, mark portions of its southern border. Two small detached portions of Stirlingshire are enclosed by the counties of Perth and Clackmannan.

The western part of Stirlingshire is within the limits of the Highlands, and includes the rugged mountain-tract which borders the eastern shores of Loch Lomond. The middle division of the county is less elevated, but embraces tracts of cold and bleak moorland. The eastern division of the county is lowland, and generally level in surface. Ben Lomond (3,191 feet), which adjoins the eastern border of Loch Lomond, is within the western and highland portion of Stirlingshire. The middle portion of the county includes the Campsie Hills and adjacent high grounds, amongst which is Earl's Seat, 1,510 feet. The hills in this part of the county, moderate as is their elevation, divide the waters of the eastern and western seas; the drainage of their eastern slopes passing to the Forth, and that of their western side to the basin of the Clyde.

The most important river of Stirlingshire is the Forth, which rises within the adjoining county of Perth, and first touches the border of Stirling about twelve miles below its source. The Duchray Water, which has its origin on the eastern slopes of Ben Lomond, and joins the Forth within Perthshire, forms part of the Stirlingshire border. The affluents of the Forth, within the county of Stirling, are the Bannock Burn, the Carron, and (on the Linlithgow border) the Avon. These streams drain the northern and eastern divisions of the county. Its western and southern slopes are watered by the Endrick, with its affluent, the Blane, which flows into Loch Lomond, and the Kelvin, which (after forming part of the county border, on the side of Lanark) falls into the Clyde.

The *geology* of Stirlingshire exhibits, in successive order, from west to east—i.e. from its highland portion to the low plain or carse which adjoins the Forth—mica-slate, clay-slate, old red sandstone, trap, and carboniferous formations. Roofing-slate is quarried within the area covered by the two first-named of the above. Within the eastern portion of the county—i.e. within the area of the coal formation, which includes the valley of the Forth from a distance of above four miles above Stirling, downward, and the whole level tract of country lying between the lower Forth and the slopes of the Campsie Hills, the mineral produce is of the highest value. Coal, iron, and limestone, are abundantly worked in portions of this area, especially within the tract watered by the Carron river.

Stirlingshire is chiefly a manufacturing county—cotton, woollen, and worsted goods (tartans, &c.), with iron-works and coal-mines, employing the larger number of its inhabitants. A considerable area of the county, however, is devoted to agricultural pursuits:

this comprehends, particularly, the fertile tracts of alluvial land, or corses, which adjoin the banks of the Forth and other streams within the lowland portion of the county. The highland region is altogether pastoral, the hills being occupied as sheep walks.

The county of Stirling includes 21 entire parishes, with parts of 5 others. Its towns and principal villages are:—

	Pop.		Pop.		Pop.
STIRLING .	11,409	KILSYTH .	4,692	DENNY .	2,428
FALKIRK .	9,030	St. Ninians	2,298	Carron .	1,035
Grangemouth	1,759	BANNOCKBURN	2,258	Bridge of Allan	1,803

The towns of Stirling and Falkirk are parliamentary burghs. Stirling unites with Culross, Dunfermline, Inverkeithing, and Queensferry, in the return of one member. Falkirk is similarly associated with the towns of Airdrie, Hamilton, Lanark, and Linlithgow. The county returns one member.

Stirling, the capital of the county, stands on the south bank of the Forth, at a distance of thirty-five miles to the west by north of Edinburgh. Its fine castle, the former residence of the kings of Scotland, crowns a rocky eminence at the upper extremity of the town. The cotton and woollen manufactures are extensively pursued in Stirling and its neighbourhood. Both *St. Ninians* and *Bannockburn*, a short distance to the southward, have extensive manufactures of woollen goods. The latter of these derives its name from the small stream, or *burn*, on which it is situated, and upon the banks of which Robert Bruce gained his great victory over the English, in 1314.

Falkirk, twelve miles south-east of Stirling, is celebrated for its extensive cattle-markets, and also for two battles fought in its neighbourhood: one a victory gained by the troops of Edward I. over the Scots in 1298; the other an engagement between the Highlanders and the royal forces (A.D. 1746), in which the latter were defeated. The battle of Sauchie Burn (1487), in which James III. was defeated by his insurgent nobles, occurred at a distance of about 8 miles to the north-westward of Falkirk, and not far distant from the field of Bannockburn. The Sauchie is a small affluent of the Carron Water, which it joins on its left bank. *Grangemouth* is a thriving port near the mouth of the Carron, and at the eastern entrance of the Forth and Clyde Canal.

Kilsyth, near the southern border of this county, and beside the north bank of the Kelvin river, is 12 miles S.W. of Stirling. It is historically noted for the victory gained by Montrose over the Covenanters in its immediate vicinity, in 1645.

16. CLACKMANNANSHIRE, the smallest of the Scotch counties, has an area of 29,440 acres, or 46 square miles. Its southern limit is marked by the river Forth, along the winding channel of which it extends for upwards of 15 miles. Its limits in other directions are marked by an irregular line, which coincides for short distances with the course of the North and South Devon rivers.

Small as is its area, Clackmannan has considerable variety of natural scenery. Its northernmost portion embraces part of the chain of the Ochill Hills, the highest summit of which, Ben Cleuch, 2,352 feet, is within its limits. Thence the land slopes gradually towards the Forth, along which it forms an alluvial plain, of great fertility.

The chief rivers of Clackmannanshire, besides the Forth, are the Devon, and the South Devon, both of which join the Forth. The valley of the former (sometimes distinguished as the North Devon), includes the chief part of the county. The Devon rises in Perthshire amongst the Ochill Hills, and forms, before entering Clackmannanshire (a few miles above Dollar), the romantic cascade known as the Caldron Linn. It joins the Forth at the village of Cambus, 4 miles below Stirling. The South (or Black) Devon has the upper portion of its course in Fifeshire, and enters the Forth two miles below Alloa.

The larger portion of Clackmannanshire—all but the extreme north—belongs, *geologically*, to the coal formation. Beds of valuable coal are worked in the neighbourhood of Alloa, and elsewhere within the county, and the produce is largely exported. Iron is largely wrought within the same area. Limestone is also abundant. Towards the Forth, the coal formation is immediately overlaid by deposits of alluvial clay, some of old, others of recent date. The Ochill Hills are composed of trap of various kinds: veins of copper and lead are found within them.

Clackmannanshire is chiefly a manufacturing and mining county, and is thickly populated. In density of population, indeed, it is only surpassed by three other counties of Scotland. Its manufactures embrace principally shawls and tartans, with blankets, serges, and various woollen fabrics. Fulling and bleaching mills are numerous upon the banks of its streams. The coal-mines and iron-works employ, besides, great numbers of the people.

Clackmannanshire includes 4 entire parishes, with parts of 2 others. The principal places within the county are:—

	Pop.		Pop.
CLACKMANNAN . . .	1,159	Dollar . . .	1,540
ALLOA . . .	6,425	TILlicOUNTRY . . .	3,684

The counties of Clackmannan and Kinross jointly return one member to the House of Commons.

Clackmannan, the county-town, lies within the valley of the South Devon river, and about two miles distant from the N. bank of the Forth. It is, however, a mere village, of greatly inferior size to Alloa, the most considerable place in the county.

Alloa lies on the N. bank of the river Forth. 7 miles below Stirling. It has a good harbour, and enjoys a considerable amount of trade, a large portion of it in connection with the extensive coal-mines and iron-works in its neighbourhood. Ale is brewed there on a scale of some magnitude, and largely supplied to other parts of the kingdom. *Tillicoultry*, a manufacturing town, is within the valley of the river Devon; as also, farther up the course of that stream, and immediately adjacent to the Perthshire border, is *Dollar*, which lies near the foot of the Ochill Hills. Dollar has bleaching-works and woollen manufactures, but derives its chief importance from its excellent public academy, or free school.

17. **KINROSSSHIRE** has an area of 49,812 acres, or 78 square miles. It is, next to Clackmaunanshire, the smallest of the Scotch counties. Kinross is altogether inland, and is enclosed between the counties of Perth and Fife. Its border is marked, for the most part, by high grounds—the Ochill Hills on the north, a portion of the Lomond Hills on the north-east, the Cleish Hills and Benarty Hill on the south. The course of the river Devon forms part of its western frontier, and the river Leven coincides for a short distance with its border-line to the eastward.

The great natural feature of Kinrossshire is Loch Leven, which is wholly within its limits. The county may be described as a nearly enclosed lake-basin, the principal opening of which is to the eastward, where the river Leven issues from Loch Leven, and flows thence, in an eastwardly course, into the Firth of Forth. The surface of Loch Leven is 300 feet above the level of the sea, and as nearly the whole county, with the exception of its south-eastern extremity, is above that level, it follows that the general elevation of Kinrossshire is considerable. Within the north-eastern extremity of the county, Bishop Hill, a portion of the range of the Lomond Hills, reaches the height of 1,292 feet. The Cleish Hills, within the southern border, reach 1,241 feet, and Benarty Hill, farther eastward, is 1,167 feet. But the highest elevations within the county are in the north-west, where the ground rises rapidly towards the chain of the Ochills. Innerdouny Hill, 1,621 feet, near the N.W. extremity of the county, and Slungie Hill, 1,354 feet, farther to the eastward, both belong to the Ochill range. Some other points on or near the northern border-line are nearly as high.

Numerous small streams discharge into Loch Leven, the chief of them being the North and South Queich and the Gairney. The Leven issues from the south-eastern extremity of the loch. The river Devon forms on the border of Kinross and Perth shires the singular bend known as the Crook of Devon.

The waters of Loch Leven cover an area of nearly 3,300 acres, or 5 square miles. The greatest depth of the lake is between 80 and 90 feet. Of six islands that it contains, the largest, St. Serf's Island, is towards its south-eastern extremity. Castle Island, the second in size, exhibits the remains of the fortress within which Mary Queen of Scots was confined, and whence she effected her romantic escape (1568).

The greater part of Kinrossshire belongs, *geologically*, to the old red sandstone formation. In the south, along the Fifeshire border, a narrow tract of country falls within the carboniferous area, and both coal and limestone are worked in that quarter. The more elevated region of the north and north-east belongs to the trap formation of the Ochills.

There is a good deal of manufacturing industry (chiefly cotton, woollen, and worsted, including tartans, shawls, &c.) in Kinrossshire, though the chief part of the county is agricultural. Oats are the grain most extensively cultivated.

The county of Kinross includes 4 entire parishes, besides portions of 3 others. Kinrossshire is associated with Clackmannanshire in the return of one member to the House of Commons. Its only town is—

KINROSS . . . pop. 2,083.

Kinross stands on the western shore of Loch Leven, at the head of a small bay, into which the South Queich discharges its waters. The making of tartan-shawls, with other branches of the woollen trade, is carried on there. These branches of industry are also pursued at the village of *Milnathort* (pop. 1,476), situated a short distance from the N.W. extremity of the lake, near the stream of the North Queich.

18. FIFESHIRE, a maritime county, has an area of 328,427 acres, or 513 square miles. It forms a peninsula, enclosed between the firths of Tay and Forth upon the north and south, and the North Sea upon the eastward. The most eastwardly point of the county forms Fife Ness. Its inland frontier is marked by an irregular line, which on the side of Kinrossshire coincides in part with the high grounds that enclose the greater portion of that county.

The coast-line of Fifeshire is of considerable extent, and of very various character. Along the Firth of Tay the shore is generally low,

excepting near the entrance, at the point where the estuary is narrowed in breadth (i. e. immediately to the west of the village of Ferryport-on-Craig, where the coast is bold and rocky). On the opposite side of the county, along the Firth of Forth, the coast is more generally elevated, but portions of low sandy shore intervene between the various lines of cliff. This is the case at Largo Bay, and at other smaller islets which occur along the northern side of that estuary. West of Inverkeithing, where the firth is narrowed by the rocky tongue of land which advances southward and terminates in the village of North Queensferry (opposite the more considerable port of Queensferry, in Linlithgowshire), the coast is generally low. The portion of the Fifeshire coast that faces the open sea includes St. Andrew's Bay, an extensive inlet, into which the river Eden discharges. Between the mouth of the Eden and Tentsmuir Point, at the entrance of the Firth of Tay, the shore is generally low; the southern shore of the bay, and the coast thence to Fife Ness, are for the most part high and rocky.

The greater part of Fifeshire has a moderately elevated surface, the ground rising gradually from the coast towards the more westerly part of the interior. The valley of the Eden, which crosses the more eastwardly portion of the county from west to east, forms a fine and open plain, known as the Howe of Fife. The high grounds that lie to the northward of this valley, between the course of the Eden and the Firth of Tay, belong to the range of the Ochills, the higher elevations of which, however, are beyond the limits of the county.

The Lomond Hills, which lie to the southward of the Eden (towards the upper part of this valley), are chiefly within Fifeshire, and penetrate thence into the adjoining county of Kinross. The summits known as East Lomond and West Lomond (both within Fifeshire) are respectively 1,471 and 1,713 feet in height. Farther to the south-west, on the border of Kinrossshire, are Benarty Hill and the Cleish Hills. The country lying between these high grounds and the shores of the Firth of Forth is generally hilly; but few points reach any conspicuous height, seldom exceeding three or four hundred feet. Some detached eminences, however, exceed that altitude; the chief among them being Largo Law, 952 feet, situated about a mile and a half to the northward of Largo Bay.

Fifeshire is watered by numerous rivers, the two chief of them being the Eden and the Leven. The Eden derives its waters from the north-westerly slopes of the Lomond Hills and the adjacent parts of the Ochill range, and flows eastward through the Howe of Fife (or Strath Eden, as it is sometimes called). The Leven issues from Loch Leven, and enters the Firth of Forth at the village of Leven,

receiving on the way (and upon its right bank) the Orr Water. Both the Eden and the Leven are made available for working numerous mills, and the water of the Leven is extensively employed for bleaching purposes. Numerous small lakes occur within the county; amongst them Loch Fitty, from which the Orr Water issues; Loch Gelly, which sends a small affluent to the Orr; Loch Glow, on the southern border of Kinrossshire; and Loch Lindores, in the more northern part of the county (only 2 miles distant from the Firth of Tay). Several of the small lakes which formerly existed have been drained, and their beds brought under culture.

The *geology* of Fifeshire exhibits, within all that portion of the county which is southward of the Eden, carboniferous limestone, with true coal-measures extending over an area which adjoins the lower course of the Leven and the broader part of the Firth of Forth. Northward of the Eden, the chief component is trap, around which there extends, for the most part, a belt of old red sandstone. The carboniferous strata of the tract lying south of the Eden are broken through, in various places, by detached masses of trap. Coal is extensively worked in many parts of the county, especially along the Firth of Forth, from the various ports on which it is shipped to other localities. Ironstone of excellent quality abounds within the coal-field, and is also, as well as limestone, extensively worked. The eastern coast of Fifeshire, near the mouth of the Eden, exhibits the most northwardly extension of the carboniferous beds of Scotland. In the trap formations which occupy the northern division of the county, whinstone is abundant, and is quarried for various uses. Granite, gneiss, quartz, mica-slate, and other primitive rocks, occur in the form of boulders, both within the northern district, and in other detached localities. Good free-stone is quarried in many places, as near Dunfermline and elsewhere. Lead has been worked in the Lomond Hills.

Fifeshire is only exceeded in density of population by four of the Scotch counties. It includes some of the chief seats of one of the great manufactures of Scotland — that of linen goods. The shipping towns and villages round the coast are also exceedingly numerous,* and a large amount of industry is employed in connection with the

* James VI. is said to have been in the habit of comparing his "Kingdom of Fife" to a grey garment bordered with a golden fringe — in reference to the rugged and then uncultivated aspect of the interior, compared with its populous and wealthy coasts. But advancing population and industry have brought the greater part of these formerly unproductive lands under the hand of the cultivator.

coal mines. An unusually large proportion of the county, however, is devoted to arable husbandry, and the produce is very considerable. Oats, wheat, and barley, are the principal crops. Potatoes are extensively grown. Flax, which supplies the staple manufacture of the county, is also an important crop.

The county of Fife is divided into 63 parishes, two of them only partially within the county. It includes a greater number of towns and considerable villages than any other county of Scotland. These are : —

	Pop.		Pop.		Pop.
CUPAR . .	5,029	KIRKCALDY .	10,841	KILRENNY .	2,145
ST. ANDREWS	5,176	DYSART . .	8,066	CRAIL . .	1,211
AUCHTERMUCHTY	1,215	EARLSFERRY .	395	NEWBURGH .	2,281
FALKLAND . .	1,184	PITTENWEEM	1,671	Wemyss (East and West) .	1,927
DUNFERMLINE	13,506	ANSTRUTHER,		LEVEN . .	2,723
INVERKEITHING	1,817	WESTER . .	367	Largo . .	428
BURNTISLAND .	3,143	ANSTRUTHER,			
KINGHORN . .	1,426	EASTER . .	1,178		

Cupar, St. Andrews, Dunfermline, Inverkeithing, Burntisland, Kinghorn, Kirkealdy, Dysart, Pittenweem, Anstruther Easter and Wester, Kilrenny, and Crail, are parliamentary burghs. Cupar shares with St. Andrews, Crail, Anstruther Easter and Wester, Kilrenny, and Pittenweem, in the return of a member. Dunfermline returns a member conjointly with Inverkeithing, Culross, Queensferry, and Stirling. Kirkealdy, Burntisland, Dysart, and Kinghorn, jointly return a single member. The county returns one member.

Cupar,* the county-town of Fife, is a small place on the north bank of the Eden, in the midst of the fertile "Howe of Fife." *St. Andrews*, on the eastern coast of the county, is venerable for its University (founded in 1411, and the oldest in Scotland), and also for its ancient cathedral, now in ruins. *Auchtermuchty* and *Falkland* are both within the valley of the Leven, the former to the northward of the river, the latter a few miles south of its stream, and at the foot of East Lomond Hill. Falkland has the remains of a royal palace, the occasional residence of James V.

Dunfermline, in the western part of the county, is by much the most considerable town in Fifeshire. It lies about 3 miles distant from the shore of the Firth of Forth, and 15 miles (in direct distance) N.W.

* Commonly spoken of as Cupar-Fife, to distinguish it from the towns of Cupar-Angus and Cupar-Grange, in Perthshire.

of Edinburgh. Dunfermline is one of the chief seats of the linen manufacture, every description of table linen (damasks, diapers, &c.) being made there on an extensive scale. It is a place of great antiquity, and of much celebrity in connection with the events of early Scottish history. The tomb of Robert Bruce is contained within its venerable abbey-church, the older portion of which is in ruins. There are few remains of its former royal palace, in which Charles I. was born, and in which Charles II. dwelt for a time.

Most of the other places within Fifeshire are coasting towns and villages, the inhabitants of which are principally engaged in the coal-trade, or in the herring and other fisheries. These follow in rapid succession along the shore of the Firth of Forth, from the western extremity of the county eastward to Fife Ness. The most considerable amongst them is *Kirkcaldy* (12 miles E.N.E. of Dunfermline), which has great trade in the export of grain and coal, besides extensive manufactures of coarse linen goods, tanneries, &c.

19. FORFARSHIRE, a maritime county, has an area of 568,750 acres, or 889 square miles. Its coast-line includes part of the northern shore of the Firth of Tay, with the coast of the North Sea from Buddon Ness northward to the mouth of the North Esk river. The last-named stream forms part of the boundary between Forfarshire and Kincardineshire. Upon the opposite side of the county, to the westward, the course of the river Isla in part divides the counties of Forfar and Perth. To the north and north-west, Forfarshire stretches back to the central ridge of the Grampians, and includes in those directions a considerable portion of the highland region. Buddon Ness, at the entrance of the Firth of Tay, and Red Head, a short distance south of Lunan Bay, belong to the Forfarshire coast. From Red Head southward to the neighbourhood of Arbroath, the shore-line is marked by cliffs of red sandstone. Southward from Arbroath to the Firth of Tay, and along the shore of that estuary, the coast is generally low and sandy. Montrose Harbour, a shallow basin of considerable extent, is to the northward of Lunan Bay.

Forfarshire has great variety of surface. The extensive plain of Strathmore crosses the county from north-east to south-west, between the banks of the North Esk on the one hand, and those of the Isla on the other, extending in either direction into the adjoining counties. The width of the plain, within Forfarshire, varies from 6 to 8 miles. It has for the most part an undulating surface, the larger portion of it under cultivation, and includes numerous towns and thriving villages. From the western limits of Strathmore the country rises rapidly

towards the mountain-region, the more elevated portions of which are here known as the Braes of Angus. Many of the hills within this highland division of the county are considerably above 2,000 feet in elevation, and several of those belonging to the central range of the Grampians, upon its northern border, are upwards of 3,000 feet. Glass Meal, 3,501 feet, at the north-western angle of the county, and at its point of contact with the counties of Perth and Aberdeen, appears to be the highest. Mount Keen, on the northern border, is 3,180 feet; Mount Battock, at its north-eastern extremity, 2,554 feet.

The portion of Forfarshire which intervenes between Strathmore and the shore of the North Sea includes the Sidlaw Hills (partly in Perthshire), and also a plain which stretches along the eastern coast, between the Sidlaws and the sea. The Sidlaw Hills lie in a general direction of N.E. and S.W., nearly correspondent to the direction of Strathmore, but inclining somewhat more to the eastward — terminating on the coast in the promontory of Red Head. Their highest elevations exceed 1,400 feet. These hills are covered to their summits with heath, and include numerous fertile valleys, with gentle slopes on either side. On their seaward face, the Sidlaws decline gradually into the plain which extends along the coast, the width of which varies from three to eight miles and upwards, its dimensions increasing to the northward. To the north of the Lunan river, the coast plain is only separated by moorlands of very moderate elevation from the central valley of Strathmore. The coast plain is generally fertile, and for the most part under cultivation.

The chief rivers of Forfarshire are — the North Esk, the South Esk, and the Isla. The two former flow directly into the North Sea; the Isla is an affluent of the Tay. The North Esk rises within the county (in the mountain-region of the north), but becomes only a border stream in its lower course. The South Esk, which also derives its waters from the Grampian region, is wholly within the county: it enters the sea through the shallow basin which forms Montrose harbour. Both the North and South Esk receive numerous affluents from the glens or highland valleys which intersect the tract lying west of Strathmore, as well as others that belong to their middle and lower courses. The Lunan, which enters the bay of that name; the Elliot Water, a short distance S. of Arbroath; and the Dighty Water, which joins the Firth of Tay near its outlet; are among the less important rivers of Forfarshire. The county contains numerous small lakes, and had formerly a great number of others, which are now drained. Among those yet remaining are Loch Lee (the source of one of the arms of the North Esk river), which is about a mile in length; Loch Brany, belonging to the South Esk basin; Loch Lin-

trathen, within the lower portion of Glen Isla; the Loch of Forfar (now of much smaller extent than formerly); and the Loch of Rescobie—the two last-named within Strathmore, and in the neighbourhood of the town of Forfar. There are also numerous small lochs within the Sidlaw region.

The *geology* of Forfarshire exhibits principally, within the highland portion of the county—that is, within the tract lying to the west of Strathmore—altered Silurian strata: within the lowland and larger division of the county, old red sandstone, traversed in several localities by insulated masses of trap, of various kinds, and some of them covering considerable areas. The line which marks the division between these two great families of rocks crosses the county from N.E. to S.W., along the western border of Strathmore and the outermost base of the Grampian region. Granite occurs in extensive masses in the extreme north of the county, and composes the high summits of the true Grampian chain.

The altered Silurian rocks of Forfarshire (as of the adjoining area on either side, in the direction of N.E. and S.W.) consist of clay-slate, chlorite, and mica-slate, with various others of gneissose character. The slaty rocks are interspersed with veins of porphyry and other primary formations. Clay-slate (greywacke) forms the chief component of the lower elevations of the mountain-region immediately above the plain of Strathmore.

The Sidlaw Hills fall within the red sandstone area, and are chiefly composed of strata belonging to that formation: in their higher elevations the sandstone is generally overlaid by whinstone—i.e. basalt, greenstone, or other kinds of trap. The sandstones which occur on the south-eastern declivities of the Sidlaw Hills are extensively quarried for paving-slabs and like uses. Large boulders of granite, derived from the Grampian region, are found within Strathmore, and also in the lower parts of the maritime district. Limestone is worked in the neighbourhood of Montrose.

In so far as its industry is concerned, Forfarshire is distinguished chiefly as a manufacturing county. It is the great seat of the linen manufacture of Scotland—the old staple of the national industry. The coarser kinds of linen fabrics—sheeting, sail-cloths, canvas, &c.—are made on a scale of great extent in its towns and larger villages. The fisheries occupy large numbers of the coast population. Large supplies of salmon and other fish are sent from the ports of Forfarshire to the London and other markets. The agricultural produce of the county is very considerable: good crops of wheat are raised in the districts that are under 1,000 feet in elevation. Barley, peas and beans, turnips, potatoes, and flax, are also extensively grown. Within Strathmore the greater portion of

the land is under the plough. The Sidlaw Hills, like the Grampians, are chiefly moorland.

Forfarshire includes 49 entire parishes, with portions of 6 others. Its principal towns and villages are :—

	Pop.		Pop.		Pop.
FORFAR .	9,258	BRECHIN .	7,179	ARBROATH	17,593
DUNDEE .	90,417	KIRRIEMUIR	3,275	Newtyle .	619
MONTROSE .	14,563	Cupar-Angus *	1,943	Carnoustie .	1,488

Forfar, Dundee, Montrose, Arbroath, and Brechin, are parliamentary burghs. Dundee returns one member. The towns of Montrose, Forfar, Arbroath, Brechin, and Bervie (the last in Kincardineshire), unite in the return of a single member. The county returns one member.

Forfar, the county-town, lies in the midst of the extensive plain of Strathmore, and on the direct line of railway communication between the south and extreme north of Scotland. It has a large share in the characteristic industry of the county—the making of linen-sheetings and other fabrics, carried on principally by hand-loom weavers, who work in their own dwellings. *Kirriemuir*, 5 miles to the N.W. of Forfar, lies near the western edge of Strathmore, in close proximity to the mountain-region: it has manufactures of coarse canvas and other linen goods, as, indeed, is the case with most of the towns and villages throughout this part of Scotland.

Dundee, the largest town in Forfarshire, lies on the north shore of the Firth of Tay, eighteen miles below Perth. Dundee is an important seat of manufactures and commerce, and has excellent docks for the accommodation of shipping: linen and hempen goods are extensively made in the town and its neighbourhood, and form the staple articles of its trade. It is, next to Leith and Aberdeen, the principal seaport on the east coast of Scotland. *Arbroath* or *Aberbrothock*, upon the coast, eighteen miles to the north-eastward of Dundee, and *Montrose* (at the mouth of the South Esk river), twelve miles farther to the north, are both flourishing seaports. The Inchcape, or Bell Rock, is 11 miles distant from Arbroath, in the direction of S.E.

Brechin, eight miles north-west of Montrose, is an ancient episcopal city, on the banks of the South Esk: it contains an old cathedral and castle.

20. KINCARDINESHIRE, a maritime county, has an area of 252,250 acres, or 394 square miles. It extends along the shore of the

* The larger part of Cupar-Angus is within the county of Perth.

North Sea, for a distance of above 30 miles, between the mouths of the North Esk and the Dee rivers. Girdle Ness, to the S. of the entrance of the Dee, is within its limits. Between the mouths of the Esk and the Bervie river (a distance of 9 miles) the shore is low and rocky. From the Bervie northward to the Dee, the coast is for the most part formed by high cliffs, in which, however, there are numerous openings. The most considerable of these forms the harbour of Stonehaven, at the mouth of the Carron river. The general border-line of Kincardineshire is marked to the northward by the course of the river Dee: a small portion of the county, in the north-west, passes to the north of that river. The Avon, an affluent of the Dee, marks part of the western border-line, as the North Esk river does of its south-western and southern frontier.

Above half the surface of Kincardineshire belongs to the highland region. The main chain of the Grampians stretches, nearly in the direction of S.W. and N.E., through the northerly portion of the county, terminating in Girdle Ness, at the mouth of the Dee. Among the higher points within the county are Clack-na-Beinn, 1,906 feet; Kerloch, 1,890 feet; Cairnie Mountain, 1,516 feet; and Finella Hill, 1,367 feet. Mount Battock, 2,554 feet, is at the N.W. angle of the county. The Grampians descend to the south and south-east into the tract of country known locally as the Howe* of the Mearns, which is a prolongation of Strathmore. This tract is for the most part divided from the North Sea by intervening high grounds, of moderate elevation, among which are the Garvock Hills, and Braxy Hill — the latter 684 feet. Strathmore terminates at Stonehaven, to the northward of which town the outlying elevations of the Grampian region make near approach to the coast.

Besides the Dee and the North Esk, upon its northern and southern borders, with their various affluents, Kincardineshire has only small streams. The three most considerable are the rivers Cowie, Carron, and Bervie, all of which have eastwardly courses into the North Sea. The Luther Water, which joins the North Esk upon its left bank, waters the southwardly portion of the Howe of Mearns. The Dye Water, which is joined by the Avon, descends from the northward slopes of the Grampians, and joins the Dee.

The same succession of *geological formations* is found in Kincardineshire as in the county of Forfar—i.e. granite, altered Silurian strata (comprehending mica-slate, clay-slate, and gneissose rocks), and red sandstone. The granite occupies relatively a larger area than is the case in the neighbouring county. The gneiss of the

* That is, *hollow* Mearns was the old territorial designation of Kincardineshire.

Grampian region reaches the coast at the mouth of the Dee, and extends thence along the shore southward for nearly ten miles, when it is succeeded by mica and clay-slate, both of which abut upon the coast—the last-named at the mouth of the Cowie river. The red sandstone succeeds these primary formations, and occupies the remaining portion of the coast-line, reaching inland to the western side of the great strath. Limestone, whinstone, quartz, felspar, porphyry, and other rocks, are found in detached masses within the red sandstone area, and the first-named is quarried in some localities. Porcelain clay of good quality is found on the banks of some of the smaller streams.

The industry of Kincardineshire is chiefly in connection with the fisheries and the culture of the soil. The cod, ling, and haddock fisheries (the last-named especially), are of considerable importance. The husbandry is pastoral rather than arable, large portions of the county consisting of moorland. Within the Howe of Mearns, however, a great deal of land is under the plough. The linen manufacture is pursued to a small extent.

Kincardineshire includes 18 entire parishes, with portions of three others. Its only towns are:—

	Pop.		Pop.
STONEHAVEN	3,009	BERVIE	952

The county of Kincardine returns one member to the imperial parliament. The town of Bervie is a parliamentary borough.*

Stonehaven, the county-town, lies on the coast, at the mouth of the Carron river, and has some trade, chiefly in connection with the fisheries, and the import of coal. *Bervie* (or Inverbervie), farther to the southward, at the mouth of the Bervie Water, has some share in the fisheries, as well as in the linen manufacture.

Kincardine, an inland village, 10 miles W. by N. of Bervie, was formerly the capital of the county, and its castle, of which there are now but small remains, has been connected with some events of importance in Scottish history. *Lawrencekirk* is a populous village in the southern part of the county. Amongst the numerous fishing-villages on the coast of Kincardineshire are Johnshaven, Gourdon, Cratown, Skateraw, and Findon (or Finnan).

III. SOUTHERN HIGHLANDS.

21. **BUTESHIRE**, an insular county, consisting of the islands of Bute and Arran, with a few smaller appendages, has an area of 109,375 acres, or 171 square miles.

* See p. 550.

The islands of Bute and Arran lie within the broader portion of the Firth of Clyde. Bute is only separated from the mainland by a narrow channel, in some parts less than three-quarters of a mile across, called the Kyles of Bute. The winding shores of the channel are distinguished by great scenic beauty. Between Bute and Arran is the Sound of Bute, which is six miles in width. Arran is divided from the peninsula of Cantire, the nearest part of the mainland, by Kilbrennan Sound, which is between three and four miles in width.

Besides Bute and Arran, the smaller islands belonging to the county of Bute are—Great and Little Cumbrae, Inchmarnock, Holy Island, and Pladda. The Cumbraes are situated in the Firth of Clyde, nearly midway between the island of Bute and the coast of Ayrshire. Inchmarnock lies off the west coast of Bute. Holy Island and Pladda are near the coast of Arran, the former on the south-east, the latter to the southward.

The island of Bute has an area of about 43 square miles. Its coast-line, which measures above 40 miles, is considerably indented, and includes several good harbours. The surface of the island, though generally hilly, is only of moderate elevation, the highest point, Kames Hill, being 875 feet. It has numerous streams, with several small lakes, the most extensive of which, Loch Fadd, is $2\frac{1}{4}$ miles in length. In geological formation, the island exhibits three well-marked divisions: viz., red sandstone, clay-slate, and mica-slate. Trap appears within the area occupied by the two first-named deposits. These formations correspond, in order of succession, to those of the nearest portions of the adjacent mainland, of which the geological structure of Bute is manifestly a continuation. Limestone and slate, with some coal of indifferent quality, are worked on the island.

Inchmarnock, off the W. coast of Bute, measures 2 miles in length by less than half a mile in width. It is composed of clay-slate, like the portion of Bute which it most nearly adjoins.

The island of Arran has an area of about 125 square miles, and a circuit of 60 miles. Two considerable indentations occur on its east side—Brodiek Bay and Lamlash Bay. The latter is protected to seaward by Holy Island, and forms a safe and capacious harbour. Brodiek Bay, farther north, has also deep water, but is more exposed. Loch Ranza, a smaller inlet, is on the north-western coast.

The surface of Arran exhibits great diversity. The whole island is hilly, and within its northern half the land rises to an elevation which imparts to it the bold attributes of mountain scenery. Goat Fell,*

* The Gaelic name of this mountain is Gaod Beinn, i.e. "Mountain of Winds."

the loftiest summit, reaches 2,874 feet above the sea. The entire northern half of the island exhibits steep and rugged elevations, divided by deep gulleys and ravines. The hills which cover for the most part the southern half of the island display gentler slopes, with intervening valleys of greater width. The island has numerous streams and small lakes. Loch Tanna, the largest of its lakes, is about a mile and a quarter in length.

The *geology* of Arran, from its varied character, has constituted an interesting field of study. A band of red sandstone, which crosses the centre of the island, between Brodick Bay and the western coast, divides it geologically into two portions, coincident with its external features of surface. North of this band, the predominant rock within the interior is granite—bordered on the west side by a margin of mica-slate, on the east by clay-slate, with (upon parts of the coast) a narrow belt of carboniferous strata. To the south of the dividing band of red sandstone, trap, of various kinds, predominates throughout the interior. The trap is succeeded, towards the coast, by carboniferous limestone, which latter forms the larger portion of the shore-line within this division of the island. Coal, freestone, limestone, ironstone, and granite, with (in the trap area) syenite and porphyry, are all found in Arran. Rock-crystals occur amongst the granite of Arran, and sulphate of barytes is wrought in one of the glens within the northern half of the island. Holy Island, off the E. coast, consists principally of basalt, resting upon sandstone, and rises in parts to upwards of 1,000 feet in height. The island of Pladda, off the S. coast, is low and flat.

Great Cumbrae Island is about $3\frac{1}{2}$ miles in length by 2 miles in breadth, and includes an area of 5,120 acres, two-thirds of which are under cultivation. Its surface is hilly. The prevailing rock is sandstone (of the same period as that of the opposite mainland, i.e. old red), which is intersected in parts by veins of whinstone. *Millport*, the only village on the island, lies on its southern coast. Little Cumbrae, less than a mile S. of the larger island, has an area of 700 acres, and is composed entirely of trap, resting upon sandstone. Its highest point reaches 700 feet above the sea.

Both Bute and Arran—the latter especially—are thinly peopled. The industry of the inhabitants is chiefly agricultural, and in Bute there is a considerable area of land under cultivation. Barley, oats, potatoes, and turnips, are the principal crops, in both islands. Many of the people are engaged in the herring-fishery pursued within the adjacent waters and in Loch Fyne. Both Bute and Arran, especially the former, are much frequented by summer visitors from the adjacent mainland, on account of their attractions of climate and scenery.

The county of Bute includes six parishes. It returns one member to the imperial parliament. Its only town is ROTHESAY, on the east side of the island of Bute, with a population of 7,122. Rothesay lies at the bottom of a deep bay, which forms a good harbour. It has the ruins of an ancient castle, the scene of several interesting events in Scottish story. The island of Arran has no town. Its most considerable places are the fishing-villages of *Brodict* and *Lamlash*, both on the eastern coast.

22. ARGYLESHERE, a maritime county, has an area of 2,083,126 acres, or 3,255 square miles. It is second in point of size among the Scotch counties. Its extensive line of coast embraces some of the most considerable of the estuaries that are found upon the western side of North Britain; amongst them Loch Sunart, Loch Linnhe, Loch Etive, the Firth of Lorn, and Loch Tyne; with the Sounds of Mull, Jura, and Islay, and a great number of smaller channels by which the insular portions of the county are divided either from one another or from the adjacent mainland. The peninsula of Cantire forms part of this county.

A large portion of Argyleshire, perhaps not less than a third of its whole extent, consists of islands. Among these are the large islands of Mull, Jura, and Islay. Those of smaller size include Coll, Tiree, Colonsay, Oronsay, Lismore, Kerrera, Seil, Luing, Scarba, and Gigha, together with Icolmkill, Staffa, Ulva, and the numerous adjacent islets that lie grouped off the western shores of Mull. The shores of Argyleshire, both upon the islands and the mainland, exhibit every variety of aspect: they are for the most part bold and elevated, the high grounds of the interior terminating to seaward in lofty headlands, marked by steep and often precipitous cliffs. In many parts, however, the immediate shore-line is low.

Argyle is a thoroughly highland county, and by far the greater portion of its surface consists of mountain and moorland. Its highest elevations are in the north-east, where a considerable portion of the Grampian region falls within its limits. Ben Cruachan, 3,670 feet, upon the northern borders of Loch Awe, appears to be the most elevated summit within the county. The mountain called Buachaille Etive, near the head of Loch Etive, is 2,537 feet. All that part of the county which lies to the north and eastward of Loch Awe and Loch Etive, including the high summits that are grouped around the upper portions of Glen Orchy, Glen Etive, and Glen Coe, is a bare mountain wilderness. Here, however, as in other parts of the county, pasture for sheep and cattle is abundantly afforded by the short grass, intermixed with heather, by which mountain-side and moor are alike covered. Farther

south, the tracts of country lying near the head of Loch Fyne, and between that estuary and the shores of Loch Long, include numerous high points. The mountain called the Cobbler, near the head of Loch Long, is 2,863 feet high, and Ben Ima, in the same neighbourhood, 3,301. Ben Torc,* the most elevated point within the peninsula of Cantire, is 1,515 feet high. The general surface of Cantire is much less elevated than that of the more eastern and northwardly portions of the county. Within the islands, Ben More, on Mull, reaches 3,185 feet; the Paps of Jura, on the island of that name, are 2,568 feet.

Argyleshire has no large rivers, but every one of its numerous glens is the bed of a mountain stream. Its two most considerable rivers are the Awe and the Orchy. The Orchy flows (through Glenorchy) into the upper end of Loch Awe: the river Awe forms the outlet of that lake, and connects its waters with Loch Etive, an estuary of the western coast. Of numerous inland lakes that are within the county, the only two that are of considerable size are Loch Awe and Loch Eck; the former, which is by far the larger of the two, is one of the largest of the Scotch lakes.

Argyleshire belongs almost entirely to the azoic and palæozoic periods of geology. The surface of the county exhibits everywhere primitive and metamorphic rocks, excepting in the extreme south, where (towards the southern extremity of Cantire) carboniferous strata appear within a limited area.

In the north and north-east of Argyleshire, granite and gneiss form the constituent rocks of the higher mountains belonging to the Grampian region. Granite also appears in the south-west of Mull. The islands of Coll and Tiree, to the west of Mull, are entirely composed of gneiss. Mica-slate predominates elsewhere throughout the mainland of the county, and appears also on the eastern side of Jura and Islay, the chief portion of which islands, however, consists of quartzose rocks. The mica-slate is succeeded to the west, within the district of Knapdale (to the N. of Cantire), by chlorite slate. Trap covers the great part of the island of Mull, with the small adjacent islands on its western side (Staffa included), as well as a considerable area of the mainland in the neighbourhood of Loch Etive and the Firth of Lorn, and upon the north-western side of Loch Fyne. Trap also appears in the south of Cantire, while it intervenes between the mica-slate of the extreme south and the carboniferous strata of a portion of the west coast.

Lead, slate, and various marbles (often of great beauty) are the chief mineral productions of the county. The principal lead-

* Properly Beinn an Tuirc, "the Wild Boar's Mountain."

mines are in the north—at Strontian, near the head of Loch Sunart, and Tyndrum, on the Argyleshire and Perthshire border. The slate quarries of Easdale Island (off the W. side of the larger island of Seil, on the W. coast of Lorn), and those of Ballahulish, on the S. side of Loch Leven, are the most extensive. Granite is quarried in the south-western peninsula of Mull, and the schistose rocks which compose so large an area of the surface are used for building purposes.

Argyreshire is thinly populated, and the number of its inhabitants has undergone considerable diminution within the last thirty years—in the ratio (comparing 1831 with 1861) of twenty per cent.* It has no manufactures of importance, and by far the larger portion of the surface is too mountainous to admit the use of the plough. Less than a seventh of the area of the county is under cultivation. Yet agriculture is pursued in the lower tracts towards the coast, as well as in favourable localities among the sheltered valleys of the interior. By far the larger part of Argyreshire, however, is pastoral; within the peninsula of Cantire the dairy constitutes the chief object of attention. The herring, ling, and cod fisheries—especially the first-named—are extensively pursued.

Argyreshire includes 36 entire parishes, with portions of three others. Eleven of the parishes are insular. The best known divisions of its mainland are the territorial districts, still marked on the maps, of Cantire, Knapdale, Cowal, Appin, and Lorn—all of them to the east and south of Loch Linnhe; with Morven, Ardgower, and Ardnamurchan, to the west of that estuary. The towns and principal villages are:—

	Pop.			Pop.		Pop.
INVERARY.	972	OBAN.	.	1,940	DUNOON	2,968
CAMPBELTOWN	6,033				Lochgilthead	1,674

Inverary, Campbeltown, and Oban, are parliamentary burghs, associated with Ayr and Irvine in the return of a single member. The county of Argyle returns one member.

Inverary, the county-town of Argyle, is a small place at the mouth of the little river Ayr, near the head of Loch Fyne. Its staple trade is in connection with the herring-fishery. *Campbeltown*, at the head of a small bay on the south-east coast of the peninsula of Cantire, is a fishing town, and has some little trade, exporting whisky and herrings, with Highland cattle and sheep. *Dunoon*, a pretty sea-bathing

* At each of the decennial periods comprehended between 1831 and 1861, the population of Argyreshire shows a numerical decrease. In 1831, the total population of the county was 100,973; in 1841, 97,371; in 1851, 89,298; in 1861, only 80,995.

town of some repute, is situated on the west shore of the Firth of Clyde, eight miles below Greenock.

Oban, a thriving town on the western coast of the county, at the head of a fine bay formed by the broader part of Loch Linnhe, has some coasting trade, and has of late years become a place of great resort to tourists on their way to the northern parts of the country, by the route of the Caledonian Canal. Lismore, the former residence of the bishops of Argyle and the Isles, is a long and narrow island, (measuring 10 miles from N.E. to S.W.), lying in the broader portion of Loch Linnhe, a few miles to the northward of Oban. It has a fertile soil, and is for the most part under cultivation.

In the northern part of Argyleshire, on the south side of Loch Leven, is the wild pastoral valley of *Glencoe*, the scene of the infamous massacre of the Macdonalds, in 1692. It is watered by the little stream of the Cona, which flows into Loch Leven.

23. PERTHSHIRE, an inland county, of large size, has an area of 1,814,063 acres, or 2,834 square miles. Its most eastwardly portion includes the mouth of the Tay and the upper portion of the Firth of Tay, with a considerable extent of the shore of that estuary upon its northern side. A small detached portion of Perthshire adjoins the north side of the Firth of Forth, towards its upper extremity. With these exceptions, the extensive frontier-line of the county is throughout inland. To the northward and westward, Perthshire stretches back to the main chain of the Grampians. The course of the river Forth forms part of its southern border, and divides it from Stirlingshire. The Islay (an affluent of the Tay) flows for a few miles along its eastern border, on the side of Forfarshire. The detached portion of Perthshire which borders on the Firth of Forth is enclosed between the counties of Fife and Clackmannan. Another, and still smaller, detached piece is entirely enclosed by Stirlingshire.

Perthshire is chiefly a highland county, but about one-third of its extent falls within the lowland area. A line drawn diagonally across the county from N.E. to S.W., passing a little to the west of Blairgowrie (on the river Erroch, a tributary of the Isla), near Dunkeld, and thence by Comrie, Callander, and Aberfoyle (the last-named on the river Forth, at the south-western extremity of the county), separates its highland and lowland divisions. This line coincides with the western boundary of the great plain or strath.*

* That is, Strathmore, which term is here used, for the sake of geographical description, in a more extended sense than belongs to its local application.—See *ante*, p. 483.

The south-eastern or lowland division of Perthshire (i. e. the portion lying to the eastward of the line above indicated) includes parts of the Ochill and Sidlaw Hills, with the less elevated tracts of Strath Allan, the lower portions of Strath Earn and Strath Tay, part of Strathmore, and the fine alluvial plain known as the Carse of Gowrie. Ben Cleuch, the highest of the Ochill Hills, is within the border of Clackmannanshire, but portions of the range that are within the county of Perth are nearly as elevated. The Ochills rise with a rapid ascent above the level tracts of Strath Allan and Strath Earn, upon their western and northern base.

The Sidlaw Hills include, within the Perthshire border, Dunsinan Hill,* 1,114 feet (8 miles N.E. of the city of Perth), and, farther to the northward, King's Seat, 1,155 feet. The Carse of Gowrie, an alluvial plain of great fertility, intervenes between the southern slopes of the Sidlaw Hills and the Firth of Tay.

Only the lower and broader portions of Strath Tay and Strath Earn belong to the lowland portion of Perthshire. Their upper portions are within the highland region. The whole of Strath Allan falls within the lowland area. The hilly region by which Strath Allan is immediately bordered on its western side is known as the Braes of Doune.

The highland division of Perthshire includes many of the high summits elsewhere described as belonging to the Grampian region. Amongst them are the Ben-y-gloe Mountains, 3,725 feet; Ben Dearg, 3,550 feet; Schehallion, 3,533 feet; Ben Lawers, 3,984 feet; Ben Chonzie, 2,922 feet; Ben Voirlich, 3,180 feet; Ben More, 3,819 feet; Ben Ledi, 3,009 feet; Ben An, 1,800 feet; and Ben Venue, 2,600 feet; —the three last-named adjacent to the beautiful district of the Trosachs, in the south-western extremity of the county.† The whole of this mountain-region is penetrated by deep valleys or glens, among the most extensive of which are Glen Lyon, Glen Almond, Glen Rannoch, Glen Garry, Glen Bruar, Glen Tilt, and Glen Shee. The names of these, and the numerous smaller glens, are derived from the streams by which they are traversed.

The most considerable river of Perthshire is the Tay. Seven-eighths of the county are included within the basin of the Tay, which drains a much larger area than any other of the Scotch rivers. The principal affluents are — on its right bank, the Bran, the Almond,

* The level summit of Dunsinan Hill is said to have been crowned by Macbeth's castle. Birnam Hill (near Dunkeld), 1,580 feet, is upon the opposite side of Strathmore, and on the immediate outskirts of the Highland region.

† See *ante*, p. 494.

and the Earn; on its left bank, the Lyon, the Tummel (which is increased, above the junction, by the stream of the Garry), and the Isla. All of these rivers, excepting the Isla, are entirely within the county. The Isla is joined on its right bank, and within Perthshire, by the Erroch, which brings with it the united streams of the Earlle (or Ardle) and Shee Waters. The upper portion of the Tay, above Loch Tay, is known as the Dochart. Loch Tay, Loch Earn, Loch Rannoch, Loch Lydoch, and Loch Ericht, all of large size, belong to the Tay basin. The greater part of Loch Lydoch is within Argyleshire, and Loch Ericht is partly within the county of Inverness: the others are within Perthshire.

The south-western extremity of Perthshire is within the basin of the Forth. This includes the river Teith (the chief affluent of the Forth), Allan Water, and the upper portion of the river Devon. The beautiful Lochs of Katrine, Achray, and Vennachar, within the course of the Teith; with Lochs Voil and Lubnaig, to the northward (and united to the Teith, immediately above Callander, by a stream which issues from the lower extremity of Loch Lubnaig); and Lochs Chon, Dhu, and Ard, in the valley of the upper Forth; all belong to this portion of the county.

The highland and lowland divisions of Perthshire exhibit a marked difference in respect of *geological formation*. The highland region is composed of altered Silurian (or metamorphic) rocks; the lowland portion of the county exhibits secondary formations, interspersed with trap. Within the former, the predominant rock is mica-slate: in the latter, red sandstone of the Devonian period. The extreme north-western portion of the county (including Glen Rannoch, Glen Garry, and the adjacent mountain-region) is composed of granite and gneiss. These rocks underlie the peat of Rannoch Moor—a vast waste, with a mossy surface. The mica-slate area succeeds, and embraces the whole region around Loch Tay, with the upper portion of Strath Tay, and the highland glens lying farther east, towards the Forfarshire border. The mountains that lie round Loch Katrine, in the S.W. of the county, are composed chiefly of mica-slate. To the south-eastward the mica-slate gradually passes into clay-slate, beds of which occupy the lower skirts of the mountain-region along its whole extent—that is, along the whole western side of Strathmore, as far as the line of division between the highland and lowland regions. The lower country which succeeds the clay-slate is within the red sandstone area, which embraces the tract lying between the rivers Teith and Forth (below Callander), the Braes of Doune, Strath Allan, and the lower portions of Strath Earn and Strath Tay. Porphyry and amygdaloid predominate in the tract of the Ochill Hills, in the extreme south-west. A small portion

of the county in that direction falls within the area of the Fifeshire coal-fields. Beds of slate are worked in several parts of the county. Good building-stone, of various descriptions, abounds.

The greater part of Perthshire is pastoral, but the cotton and linen manufactures are both extensively pursued within the lowland region. This portion of the county, besides several towns, contains numerous large and populous villages. Notwithstanding the large area of Perthshire that consists altogether of mountain and moorland, it has a higher average of population than several of the lowland counties. The land under cultivation is estimated at a third of the whole. This embraces chiefly the alluvial plains or valleys belonging to the lower Tay, the Earn, the Teith, and the Forth rivers. The Carse of Gowrie is one of the most productive portions of Scotland, and yields abundant crops of wheat. Oats and barley are the grains generally cultivated within the less favoured districts. Turnips and potatoes are extensively grown.

Perthshire includes 70 entire parishes, besides portions of 12 others. The old territorial divisions included within its limits were Athol, Balquhiddie, Breadalbane, Gowrie, Menteith, Raunoch, Stornmont, and Strathearn. The towns and principal villages are:—

	Pop.		Pop.		Pop.
PERTH .	25,250	Dunkeld .	929	Comrie .	789
CULROSS .	517	CRIEFF .	3,903	Doune .	1,256
Cupar-Angus	1,943	AUCHTERARDEE,	2,844	Callander .	884
BLAIRGOWRIE	3,344	Dunblane .	1,709	Abernethy	984
ALYTH .	2,106			KINCARDINE	2,166

Perth and Culross are parliamentary burghs. The city of Perth returns one member to the imperial parliament. Culross shares in the return of a member with Stirling, Dunfermline, Inverkeithing, and Queensferry. The county returns one member.

Perth, the capital of the county, is finely situated on the right bank of the Tay, about 8 miles above the commencement of the firth. To the north and south of the town are two extensive meadows, known respectively as the North Inch and the South Inch. Perth is a well-built and handsome city, among the most attractive in Scotland. It has considerable manufactures—chiefly of coloured cottons, with flax mills, tanneries, iron-works, and others; besides extensive shipping trade. Perth is of early origin, and down to the death of James I. (1437) was regarded as the capital of Scotland.*

* James I. (of Scotland) was assassinated at Perth, in 1437. After this event, the seat of government was definitely removed to Edinburgh.

It has shared in numerous events of importance in Scottish history. A mile to the northward of Perth, and on the opposite bank of the river, is the village of *Scone*, which had formerly an ancient palace (of which no traces are left) the residence of the kings of Scotland, as well an ancient abbey, within which they were crowned. A small portion of the abbey yet remains.* Tippermuir (or Tibbermore), 4 miles west of Perth, was the scene of one of Montrose's victories, in 1644. A few miles farther to the southward is Dupplin Moor, where the Scots sustained a defeat at the hands of an English force, under Baliol, in 1332. The field of battle adjoined the right bank of the Earn. The village of *Abernethy*, 7 miles S.E. of Perth, at the junction of the Earn with the Tay, represents the ancient capital of the Pictish kings, and the former seat of a bishopric, removed to St. Andrews.†

Cupar-Angus, on the left bank of the Tay (12 miles N.E. of Perth) is partly within the county of Forfar. *Alyth*, on a small rivulet which joins the Isla, is farther to the northward, and also near the Forfarshire border. *Dunkeld*, 12 miles N.W. of Perth, and just within the highland border, lies in a deep hollow formed by the hills which enclose the banks of the Tay, on which it stands. The great line of road from Perth to the north-westward passes through Dunkeld, up the valley of the Tay, and afterwards up the tributary valleys watered by the Tummel and the Garry, upon the banks of which latter stream, 14 miles N.W. of Dunkeld, is the pass of Killiecrankie, where the Highland clans, led by Viscount Dundee, defeated the troops of William III. under General Mackay, in 1689. Dunkeld was itself, a few weeks later, the scene of a fierce conflict, attended with opposite results.‡ A few miles above Killiecrankie are Blair Athol and the entrance of Glen Tilt.

Crieff, on the N. bank of the river Earn, 15 miles W. of Perth, has considerable share in the cotton and flax manufactures. It lies at the entrance of one of the roads which penetrate the highland region. *Auchterarder* is to the south-eastward of Crieff, and 13 miles distant from Perth, in the direction of S.W.

Dunblane, the former seat of a bishopric, is on the left bank of the Allan Water, 4 miles N. of Stirling. Sheriff Muir, the scene of the indecisive battle of 1715, is a short distance to the eastward. A railway which proceeds up the valley of the Teith (passing on the

* The ancient stone which formed the coronation seat of the Scotch monarchs, and which still has its place beneath the chair in which the sovereigns of Britain are seated during the ceremony of receiving the crown, was removed from Scone to Westminster Abbey, by Edward I.

† Abernethy and Brechin (Forfarshire) possess the only two round towers that are found in Scotland.

‡ See Macaulay: Hist. of Eng., chap. xiii.

way the manufacturing village of *Doune*) connects Dunblane with the picturesque village of Callander, situated at the southern entrance of the Perthshire highlands, and on the line of approach to the romantic scenery of the Trosachs. At the point where Callander stands, the Teith is joined, on its northern side, by the stream which issues from Loch Lubnaig. *Aberfoyle*, on the Forth, is 8 miles S.W. of Callander. The towns of *Kincardine* and *Culross* are both situated on the Forth, within the detached portion of Perthshire which adjoins the north bank of that river, below the town of Alloa and the shire of Clackmannan.

IV. NORTHERN HIGHLANDS.

24. **ABERDEENSHIRE**, a maritime county, on the east side of Scotland, has an area of 1,260,625 acres, or 1,970 square miles. Its limits to the north and east are marked by the waters of the North Sea. On the south, the course of the river Dee, and the main chain of the Grampian Mountains, form the chief part of its boundary. A branch range belonging to the Grampian system marks a portion also of the western border of the county, which however is formed in great part by an irregular and artificial line, not coincident with any important natural feature.

The coast-line of Aberdeenshire includes Buchan Ness, the easternmost extremity of Scotland: together with Rattray Head, Cairnbulg Point, and Kinnaird Head. Both Buchan Ness and Kinnaird Head are of considerable elevation. Of numerous bays included between these and other headlands, the most noteworthy are—Cruden Bay, Invernetty or Sandford Bay (immediately N. of Buchan Ness), Peterhead Bay, Strathbeg Bay, and Fraserburgh Bay.

From the mouth of the Dee northward to that of the Ythan river, the coast of Aberdeenshire is generally low and shelving. Between the Ythan and Ugie rivers, it becomes high and rocky; the rocks known as the Bullers (i. e. boilers) of Buchan belong to this part of the coast. From the Ugie river northward, the shore again becomes for the most part sandy and low. The northern coast-line of the county is in some parts sandy, in others rocky, but is nowhere of any conspicuous height.

Aberdeenshire has great diversity of surface. Some of the highest mountains in Britain fall within, or on the borders of, its southwestern division, and the whole of the ground within that portion of the county lies at an elevation of several hundred feet above the sea.

Thence the general slope of the land is to the east and north-east, the mountains spreading over a considerable area in those directions. Yet although the greater part of Aberdeenshire is highland, its eastern and north-eastern divisions are but moderately elevated, and the larger part of the county is hilly rather than mountainous. Even the high grounds which in the east and north-east divide the river basins, as well as the tracts extending along the coast, for several miles inland, are in point of absolute elevation lower than many tracts of country within the lowland region of southern Scotland.

Among the high summits that belong to the main chain of the Grampians (and for the most part lying along the border-line of Aberdeenshire, though one or two of the number fall within its limits) are—Mount Battock, 2,666 feet; Cock Cairn; Mount Keen, 3,180 feet; Black Hill of Mark; Dhuloch, 3,250 feet; Loch-na-gar, 3,800 feet; Cairn Taggart, 3,000 feet; Glass Meall; Ben Uarn More, 3,589 feet; Searsoch, 3,402 feet; and Cairn Eclar, 3,350 feet. The last-named of these is at the south-western extremity of the county. In the branch chain which stretches thence to the north and north-east, along the Inverness and Banffshire borders, are—Ben-na-Vrochan, 3,825 feet; Braeriach, 4,225 feet; Ben Mac Dhui, 4,406 feet; Cairngorm, 4,095 feet; Ben Avon, 3,968 feet; and Morven Hill, 2,880 feet. The last-named mountain lies considerably within the county border, intermediate between the Dee and the Don rivers. The Buck of Cabrach, on the north side of the Don valley (and near the course of the upper Doveran) is 2,377 feet.

The principal rivers of Aberdeenshire are the Dee, the Don, the Ythan, the Ugie, and the Doveran. The last has only a small part of its course within the county, and belongs in part to Banffshire.

The Dee rises at a greater elevation above the sea than any other river in Britain.* Its basin is of limited extent, being narrowed by the high mountains which approach its banks on either side. Its chief tributaries are—on the right bank, the Muick and the Dye Waters; on the left, the Gairn Water. The Muick issues from Loch Muick, which is two miles long. The Don is joined on its left bank by the river Ury. Neither the Dee nor the Don are navigable above their immediate outlets; both rivers possess valuable salmon and other fisheries. The Ythan is navigable, a few miles above its mouth, for small vessels.

In point of *geological formation*, Aberdeenshire consists almost entirely of metamorphic, or altered Silurian, rocks—approaching in many parts the character of gneiss, with large areas of granite interspersed amongst them, especially within the southern division of

* See *ante*, p. 491.

the county. The metamorphic deposits exhibit, through the greater part of the county, the form of clay-slate, with chlorite and mica-slate, passing in its extreme south-western division (within the tract that includes the upper portion of the Dee valley) into quartzose flagstones and their associated limestones. Nearly the whole tract between the middle and lower portions of the rivers Dee and Don consists of granite, the masses of which extend close up to the city of Aberdeen, upon its western side. Granite is extensively quarried in the immediate neighbourhood of that city, and largely exported. The Aberdeenshire granite is principally grey granite, in which felspar and quartz are the chief ingredients, mica being a less abundant component in it. A tract of some extent on the east side of the Doveran valley consists of sandstone, belonging to the "old red" period. Trap veins and dykes appear in many parts of the county.

Aberdeenshire is to a considerable extent a manufacturing county. It has a higher average of population than any other portion of the Highlands. The manufacture of cotton, linen, and woollen fabrics is extensively pursued at Aberdeen and other places, and the shipping trade is on an extensive scale.

The proportion of arable land is most considerable within the eastern division of Aberdeenshire, and principally within the valleys of the Don and the Ythan and the tract lying between those rivers. Good crops of oats, barley, potatoes, and turnips, are grown here. The climate is too severe for wheat. The larger portion of the county, however, has too uneven a surface for the plough: the land is used chiefly for rearing sheep and cattle, and for the purposes of dairy farming. There are extensive plantations of Scotch fir and other hardy trees within the south-western division of Aberdeenshire.

Aberdeenshire includes 81 entire parishes, with portions of 8 others. The former territorial divisions of Buchan, Garioch, Formartin, Mar,* and Strathbogie, belong to this part of Scotland—the last-named of them being partly within Banffshire. The principal towns and villages are:—

	Pop.		Pop.		Pop.
ABERDEEN .	73,805	Alford	1,264	FRASERBURGH	3,101
Ballater .	362	Old Meldrum	1,553	Roseheartly .	908
KINTORE .	568	Newburgh .	541	Turriff .	1,843
INVERURY .	2,520	Ellon .	823	HUNTLEY .	3,448
		PETERHEAD	7,541		

* Brae-mar is a subdivision of Mar — including the upper portion of the Dee valley. Mar comprehends all that part of Aberdeenshire which is south of the river Don.

The city of Aberdeen, and the towns of Kintore, Inverury, and Peterhead, are parliamentary burghs. The city of Aberdeen returns one member. Inverury, Kintore, and Peterhead, unite with the towns of Banff, Cullen, and Elgin, in the return of a member. The county returns one member.

Aberdeen, the capital of the county, and the third place in Scotland in point of population, is situated at the mouth of the river Dee. Adjacent to it on the northward, and upon the southern bank of the Don, is Old Aberdeen, with which indeed Aberdeen is almost continuous. Aberdeen has of late years become a place of great foreign and coasting trade, and possesses an extensive dock, with fine piers and quays. It has also considerable manufactures of cotton, linen, and woollen fabrics, and there are large iron-works and ship-building yards. Aberdeen is the seat of a university, which embraces two colleges, — King's College, in Old Aberdeen, and Marischal College, in New Aberdeen, — both of them flourishing institutions. Two miles above Aberdeen is the Bridge of Dee, where Montrose, in 1644, gained one of his victories, after which occasion he became for a time master of the city. About 12 miles farther up the Dee valley is the rivulet of Corrichie Burn, beside which the followers of the Earl of Huntley were defeated by the forces of Queen Mary (under the Earls of Moray, Morton, and Athol), in 1562. The locality is immediately within the Kincardineshire border.

In the upper part of the valley of the Dee, forty-two miles to the westward of Aberdeen, and within the region of the Highlands, is the village of *Ballater*, resorted to on account of the mineral springs in its neighbourhood, as well as from the romantic beauty of the wild scenery among which it is placed. About seven miles higher up the river, upon its south bank, is Balmoral castle, the highland residence of Her Majesty Queen Victoria.

The town of *Inverury* — hardly more than a village in point of size — stands at the junction of the river Ury with the Don, 15 miles to the N.W. of Aberdeen, with which city it is connected by railway. *Kintore*, on the right bank of the Don, is below Inverury, and 3 miles nearer to Aberdeen. Between two and three miles N.E. of Inverury, midway between that place and the village of Old Meldrum, is Barra Hill, where Robert Bruce defeated an English force under the command of the Earl of Buchan (1307). The battle of Harlaw (1411), between an opposing Highland and Lowland force, was fought a few miles to the N.W. of Inverury, within the parish of Chapel Garioch, between the streams of the Ury and the Don. The village of *Alford*, higher up the valley of the Don, and upon its right bank

(13 miles W. by S. of Inverury), was the scene of one of Montrose's victories, in 1645.

Peterhead, a thriving seaport town, with considerable ship-building and a large share in the northern whale-fishery, besides general trade, lies in the north-east of the county, a short distance to the north of Buchan Ness. Granite, quarried in the neighbourhood, is shipped extensively from Peterhead. Mineral springs in the immediate vicinity of the town add to its attractions as a place of resort for summer visitors. *Fraserburgh*, also a shipping port, with considerable share in the herring-fishery, is 15 miles N.W. of Peterhead, near the promontory of Kinnaird Head. *Turriff* is a small town in the valley of the Doveran river, near its right bank. *Huntley* is on the river Bogie, and within the district of Strathbogie, to which that stream gives name.

25. BANFFSHIRE, a maritime county, has an area of 439,219 acres, or 686 square miles. Its coast-line, which extends for a length of thirty miles along the North Sea and the broader portion of the Murray Firth, is generally rocky, but only of moderate elevation. The county stretches thence inland, in a direction of S.W., to the higher Grampian region. Its breadth is in one part narrowed to less than five miles, by the approach of the adjoining counties of Aberdeen and Elgin on either side, and it again narrows towards its southern extremity. The river Doveran on the east, and the Spey on the west, mark portions of the county boundary.

The southern extremity of Banffshire includes part of the high group of the Cairngorm Mountains and the connected heights which lie round the upper part of Glen Avon, comprehending some of the most elevated grounds in the British Islands. Cairngorm, Ben Mac Dhui, Ben-na-Main, Ben Avon (3,826 feet), and other high summits, belong to this region. The mountains thence decline in altitude to the northward, but the high grounds by which the valley of the Avon is bordered on its eastern side include many lofty summits — amongst them Alsait Hill, Corryhabbie (2,558 feet), and Ben Rinnes (near the junction of the Avon with the Spey), 2,747 feet. The more northwardly division of the county is hilly, but only of moderate height. The hill called Bin of Cullen (not far distant from the coast, in the N.W. of the county, is 1,043 feet. Lurg Hill, 1,016 feet, and Knock Hill, 1,640 feet, are a few miles farther inland.

The chief rivers of Banffshire are the Doveran, the Spey, and the Avon — the last an affluent of the Spey. A stream called the Isla joins the Doveran on its left bank. The Avon rises in Loch Avon,*

* See *ante*, p. 484, note.

within the extreme S.W. of the county. Numerous smaller streams water the narrow glens of the mountain-region.

Granite, gneiss, quartz, mica-slate, greywacke or clay-slate, and (within a small area) red sandstone, of the Devonian period, enter into the *geology* of Banffshire. All but the first and last-named of the above belong to the extensive series of altered Silurian deposits which (according to the most recent geological classification) compose by far the larger part of the highland region. Serpentine appears in the neighbourhood of Portsoy, on the coast, and is quarried as marble.

The industry of Banffshire is chiefly agricultural. Within the less elevated portion of the county, towards the north, a large proportion of land is under the plough, and the processes of husbandry are well conducted. Good crops of barley, oats, and (in the lower grounds) wheat, are produced. The larger portion of the county, however, is chiefly a pastoral region — many parts, towards the south, a mere wilderness of mountain and moorland. The salmon-fisheries of the Doveran and Spey rivers are of high value, and the herring-fishery is pursued off the coast. There is little of manufacturing industry, but weaving, bleaching, and flax-dressing, are pursued in some of the towns and larger villages.

Banffshire includes 20 entire parishes, with portions of 10 others. Its towns and principal villages are:—

	Pop.		Pop.		Pop.
BANFF . . .	6,781	CULLEN . . .	1,818	KEITH . . .	2,648
Portsoy . . .	1,903	BUCKIE . . .	2,798	Dufftown . .	1,249

Banff and Cullen are parliamentary burghs, and are associated in the return of a single member with Elgin, Inverury, Kintore, and Peterhead. The county returns one member.

The town of *Banff*, in the north-eastern angle of the county, lies near the mouth of the river Doveran, and at a distance of thirty-nine miles to the north-west of Aberdeen. It is of considerable antiquity, and had formerly a castle of which there are still some remains. A stone bridge over the Doveran river connects Banff with its suburb of Macduff, to the eastward. Upon the coast, to the westward of Banff, are the fishing-towns of *Portsoy* and *Cullen*, the latter at the outlet of a stream called by its name.

Keith, a market-town of some antiquity, is in the interior of the county, on the stream of the Isla. Considerably farther southward, and entirely within the mountain-region, the little stream of the Livet water, which joins the Avon, flows through Glen Livet, famous

in connection with the distillation of spirit (whisky), which is pursued to a greater or less extent throughout the highlands. The locality of Glen Livet is also to be noted as the scene of a battle between the army of King James, consisting of Highland clans under the Earl of Argyle, and a Lowland force headed by the catholic Earls of Huntley and Errol, in 1594, in which the former were defeated.*

26. **ELGINSHIRE**, a maritime county, has an area of 340,000 acres, or 531 square miles. It consists of two distinct portions, which are divided by a detached piece of Invernessshire. The more northwardly (and considerably the larger) of the two extends for a distance of nearly thirty miles along the Murray Firth. The eastern and western portions of this coast-line are low, exhibiting chiefly raised beaches of sand and gravel; the middle portion, between the mouth of the Lossie river and the promontory of Burgh Head (at the N.E. extremity of Burgh Head Bay) consists of bold and precipitous cliffs of sandstone.

Within that part of the Elginshire coast which is to the west of the Findhorn river, the combined action of sea and wind has effected very considerable changes within a recent period, and the former shore-line is at a distance of several miles inland. Some tracts that were formerly productive are now covered with sterile sand. At the mouth of the Lossie river, again, changes of like description, affecting the relative area of land and sea, are still in progress. The inland frontier of the county is irregular, but to the eastward is marked in part by the course of the river Spey.

The greater part of Elginshire is only moderately elevated. Although within the highland region, the county includes a large area of lowland within its northwardly division, especially towards its seaward border. The tract extending along the Moray Firth, and for several miles inland, forms an extensive flat, known as the "Howe of Moray." Immediately along the coast, this region is sandy, but at the distance of a few miles the sand is succeeded by an alluvial deposit which is often of great fertility. At a distance of five or six miles towards the interior, the ground rises into an undulating and hilly country, of moderate elevation. The hill called Findlay Seat, about 4 miles S.E. of the town of Elgin, is 1,116 feet high. The more southwardly division of the county rises to considerably greater

* Tytler: Hist. of Scotland, vol. vii. p. 268. The battle was a severely contested one.

elevation, especially on its eastern and western borders, which are there marked by the mountains that bound the valley of the Spey upon either side.

The chief rivers of Elginshire are the Spey, the Lossie, and the Findhorn. The Spey is joined, in its course through this county, by the Nethy on its right, and the Dulmain on its left, bank; and receives its most considerable affluent, the Avon, upon the Banffshire and Elginshire border. The banks of the Spey are noted for the varied and romantic beauty of their scenery. The Findhorn is joined on its right bank, within Elginshire, by the Divie Water, which flows through a sylvan valley of great beauty. There are numerous small lakes within the county. One of the most extensive was Loch Spynie, which adjoined the left bank of the Lossie river, near its outlet: the waters of this lake have been drained off, and the land reclaimed. Loch-in-Dorbh, on the Nairnshire border, has in its centre an island, with the remains of a royal castle.

The *geology* of Elginshire exhibits almost exclusively gneiss and old red sandstone. Gneiss predominates in the southern and middle divisions of the county: strata of old red sandstone in the north, towards the sea-coast. Oolitic strata appear within a limited portion of the red sandstone area. The sandstone affords excellent material for building purposes, and is extensively wrought as a free-stone. There are slate quarries in some parts of the county, and also granite, which is worked to a limited extent. Lime requires to be imported for agricultural uses.

Elginshire is a thoroughly agricultural county. The low plains of the north include a large area of productive arable land, within which excellent crops of wheat, as well as the hardier grains, are raised. In the higher grounds of the interior, oats are the staple crop. The climate of the coast district is regarded as possessed of superior advantages to other parts of Scotland in so high a latitude, in its greater freedom from cold and moist winds.

Elginshire is included within the extensive region formerly known as Moray (or Murray), which name is still familiarly applied to it. The county includes 15 entire parishes, with portions of 9 others. Its towns and principal villages are:—

ELGIN . . .	Pop. 7,543	Fochabers .	Pop. 1,145	Rothies .	Pop. 1,465
Lossiemouth	1,333			FORRES .	3,508

Elgin and Forres are parliamentary burghs, and are associated in

the return of a member with several places in the adjoining counties.* The county, jointly with Nairnshire, returns one member.

Elgin, the county-town, lies on the right bank of the Lossie river: it is chiefly distinguished for the remains of its ancient cathedral, formerly one of the finest ecclesiastical edifices in Scotland. *Lossie-mouth*, near the outlet of the Lossie river, forms the port of Elgin. The maritime village of *Kingston*, at the mouth of the Spey, is of some importance as a fishing station, and has yards for ship-building. *Burghhead* and other villages on the coast of Elginshire also share in the fisheries. Burghhead was formerly a station and stronghold of the Danes or Northmen.

Forres is an ancient town near the right bank of the river Findhorn, a short distance above its entrance into the shallow estuary known as Loch Findhorn. In its neighbourhood is a celebrated ancient pillar of sandstone, with inscribed figures, called Sweno's Stone, a memorial of Danish inroad and conquest.

27. NAIRNSHIRE, a maritime county, has an area of 137,500 acres, or 215 square miles. Its coast-line, which extends for nine miles along the narrower portion of the Murray Firth, is generally low, but is backed, to the eastward of the river Nairn, by a chain of sand-hills which stretch thence into the adjacent county of Elgin. The inland frontier of Nairnshire is irregular, especially on the side of Inverness, where the border-line crosses and recrosses the valley of the river Nairn.

The surface of Nairnshire is varied, and, in the interior, hilly, though nowhere rising to any considerable elevation. An undulating plain, which in its wider parts is about five miles in breadth, extends along the coast. Lethen Hill, on the Nairnshire and Elginshire border, at a distance of only five miles inland, is 848 feet. But the ground rises to greater height farther to the southward. The principal rivers are the Findhorn and the Nairn, portions only of which are within the county. There are several small lakes in Nairnshire.

The *geological formations* of Nairnshire exhibit granite gneiss, and old red sandstone. The two former belong to the more elevated interior districts: the sandstone strata to the maritime portion of the county. The sandstone is quarried for building purposes.

The industry of Nairnshire is almost wholly agricultural. Oats and barley are the staple crops, but wheat is also grown in the more

* See *ante*, p. 568. Forres belongs to the Inverness district of burghs.

favoured portions of the coast-plain. The rearing of sheep and cattle is extensively pursued within the more elevated portions of the county.

Nairnshire includes 4 entire parishes, with parts of 5 others. Its only town is NAIRN (3,435 inhabitants), which is a parliamentary burgh, associated with Inverness and other places in the return of a member. The county of Nairn joins that of Elgin in the return of one member.

Nairn is situated on the left bank of the river Nairn, at its entrance into the sea. It has a share in the herring-fishery, and also some amount of general shipping trade, the mouth of the river forming a harbour for small vessels. Four miles above Nairn is the village of Cawdor. At half that distance, in the direction of E. by S., is Auldearn, in the neighbourhood of which village Montrose defeated the army of the Covenanters, in 1645.

28. INVERNESSSHIRE, a maritime county, the largest in Scotland, has an area of 2,723,501 acres, or 4,255 square miles. Its north-eastern border adjoins Loch Beauley and the upper part of the Murray Firth; excepting in that locality, the coast-line of the county, which is of great extent, belongs to the western side of Scotland, and includes, besides a portion of the mainland, many of the neighbouring islands. The islets of Loch Hourn, Loch Nevis, Loch Nanuagh, Loch Aylort, and Loch Moidart, with a portion of the shores of Loch Eil and Loch Leven (the two last-named connected with the upper part of Loch Linnhe) belongs to the mainland portion of the Inverness-shire shores. The channel called the Sound of Sleat intervenes between the mainland and the large island of Skye.

Invernessshire is one of the most thoroughly highland portions of Scotland. The vastly greater portion of its surface exhibits only mountain and moorland, with deep and narrow glens which penetrate the whole region and divide the higher grounds. The long and deep valley of Glenmore (elsewhere described *) stretches through the county, and divides it into two portions.

The part of Invernessshire that lies to the east of Glenmore belongs to the higher Grampian region, and includes a considerable part of the main chain of the Grampians. Ben Nevis, 4,406 feet, the highest summit in the British Islands, falls within this region, near the east side of Loch Eil, and on the right of the southern entrance to the Caledonian Canal. On the eastern border of the county are Cairn Eelar, 3,350 feet, and Cairngorm, 4,090—the

* See *ante*, p. 484.

former at the point of junction between the three shires of Inverness, Perth, and Aberdeen, the latter at the point where the shires of Inverness, Aberdeen, and Banff, meet. The range of the Monadh Leadh Mountains,* which divides the valleys of the Findhorn and Spey rivers, is within this portion of Invernessshire.

Among the numerous valleys belonging to this division of the county (besides Glenmore), the principal are — the upper portion of Strath Spey, with Strath Dearn, Strath Erick, Glen Spean, Glen Roy,† and numerous smaller glens.

The portion of the mainland of Invernessshire that is to the west of Glenmore belongs to the region elsewhere described under the name of the Northern Highlands.‡ The most conspicuous summit within its limits is Meall-iourvouny, 2,700, on the west side of Loch Ness. Strath Glass (with the tributary valleys of Glen Farar, Glen Cannich, and Strath Affarie), Glen Urquhart, Glen Moriston, and Glen Garry, are the most noteworthy of the depressions below the generally high level of its surface. Among the high summits upon the northern border of this portion of the county are Ben Attow, 4,000 feet, and Benevachart, 3,000 feet, both on the border of Invernessshire and Rossshire.

The principal rivers of Invernessshire are the Spey, the Findhorn, the Nairn, and the Ness, with their numerous affluent streams. The Spey rises within the county, and has the greater part of its course within its limits. Both the Findhorn and the Nairn also rise within Invernessshire, and flow in the same general direction as the Spey — that is, to the north-eastward. The Spean Water, which drains part of the southern division of the county, has an opposite or westerly course. The Findhorn flows, in the upper portion of its course, through Strath Dearn.

The river Ness issues from Loch Ness, and falls into Loch Beauley, at the upper extremity of the Murray Firth. The streams of the Foyers and Farakaig Waters, the former of which forms the magnificent falls of Foyers, enter Loch Ness on its eastern side: before reaching the lake, their waters (flowing from opposite directions — the Foyers from the S.W., the Farakaig from the N.E.) pass through

* That is, "Dark Grey" mountains.

† Glen Roy is a tributary valley to Glen Spean, the outflow of which is carried by the Spean water into the river Lochy, below the loch of that name. The "parallel roads" of Glen Roy have attracted much notice on the part of scientific observers. They were long supposed to be of artificial construction, but are now recognised as the markings left by successive alterations in the level of the waters by which the bottom of the valley was formerly occupied. Similar appearances are of not unfrequent occurrence, both in Scotland and elsewhere.

‡ See *ante*, p. 485.

the narrow valley of Strath Erick, which lies parallel to Loch Ness. Lochs Oich and Lochy, to the southward of Loch Ness, are united to it by means of the Caledonian Canal. The river Lochy, which issues from Loch Lochy, flows into Loch Eil.

The most considerable stream within the portion of Invernessshire lying west of Glenmore is the river Beauley, which flows into the head of Loch Beauley, bringing with it the waters of Strath Glass and the adjacent glens. Besides the numerous lakes already mentioned, Invernessshire includes Loch Moyley, Loch Garry, Loch Quoich, Loch Arkaig, Loch Morar, Loch Laggan, and Loch Treig, with many of smaller size. Loch Shiel, which has an outlet to the estuary of Loch Moidart, on the western coast, is on the border of Invernessshire and Argyleshire. Loch Ericht, in the south-eastern division of the county, is partly within the Perthshire border, and belongs to the basin of the river Tay.

The islands belonging to Invernessshire comprehend Skye, with the adjacent Raasay, Scalpa, South Rona, Canna, Rum, and Eig—all within a short distance of the mainland: together with Harris, North Uist, Benbecula, South Uist, and the Barra group, forming parts of the more distant and prolonged chain of the Outer Hebrides. Skye, which is of large size, equals in boldness of external feature and grandeur of scenery any region of Scotland. The Cuchullin Hills (in the neighbourhood of its southern coast, and within the middle section of the island) reach in their highest summit 3,220 feet, and enclose within their recesses the waters of Loch Coruisk, one of the wildest of the highland lakes.

The *geological formation* of Invernessshire is, with few exceptions, remarkably uniform. The vastly greater portion of the county is composed of altered Silurian (or metamorphic) rocks, for the most part of gneissose character. In the southern part of the county, to the east of Glenmore, and also in some other localities of less extent, the gneiss passes into mica-slate. In the north, along part of the shores of Loch Ness and the Beauley loch, secondary strata of red sandstone (of the Devonian or "old red" period) replace the prevailing gneiss. Trap is extensively developed in Skye, and covers the greater part of that island: at its eastern extremity, however, secondary strata appear—amongst them the sandstone of the western coast of Scotland, formerly assigned to the "old red" period, but shown by recent investigations to belong to the Silurian era.*

The county of Inverness is one of the least populated portions of the British Islands. Its elevated and generally rugged surface readily

* See *ante*, p. 495.

accounts for this. In many parts of the county there are extensive forests, within which the red deer and the roebuck roam in comparative security. The natural moorland growth consists of oak, fir, birch, ash, mountain-ash, holly, elm, hazel, and Scotch poplar. The extensive plantations which have been made within recent periods are principally composed of the larch, spruce, silver fir, beech, and plane. The rearing of black cattle and sheep occupies the farmers and peasantry in general throughout the country. Arable husbandry is pursued in the lower grounds adjoining the Murray Firth, and good crops of wheat are obtained, though oats are the more general crop. The herring and other fisheries employ the coast population, upon either side of the county. The Gaelic language is still spoken in the glens and secluded districts in general, throughout the county.

The ancient districts of Badenoch, Lochaber, Glenelg, and others of less extent, fall within the limits of Invernessshire. The mainland of the county includes 13 entire parishes, with portions of 11 others. The islands form 12 parishes, one of which is partly within the county of Argyle. Its only town is Inverness.

	Pop.		Pop.		Pop.
INVERNESS	12,509	Beauley	917	Portree	679

Inverness is a parliamentary borough, associated with Forres, Fortrose, and Nairn, in the return of a single member. The county of Inverness returns one member.

Inverness is regarded as the capital of the Highlands. It stands upon the right bank of the river Ness, at its entrance into Loch Beauley, and near the northern termination of the Caledonian Canal. Inverness is a well-built and thriving place, and possesses considerable local trade, serving as the port for a large inland district: it has great antiquity, and has been the scene of many interesting occurrences in Scottish history. On an eminence to the south-east of the town formerly stood an ancient castle, in which tradition records that Duncan was murdered by Macbeth.

The environs of Inverness are highly attractive, and the scenery on the banks of the Ness presents a striking mixture of beauty and grandeur. Five miles to the south-eastward of the town is Culloden Moor, memorable for the battle fought in 1746, by the result of which the hopes of the Stuart family were extinguished. It is an extensive and desolate tract of table-land, traversed longitudinally by a carriage-road, on the sides of which are two or three green trenches marking the spot where the heat of the battle took place, and where numbers of the slain were interred.

The long valley of Glenmore, within which Inverness is situated, contains the three military posts of Fort George, Fort Augustus, and Fort William, built at various periods with the purpose of holding in check the Highland population. A few soldiers only are now stationed in these forts, which are of little importance in the present day, except as stations for tourists. Fort George, the nearest of them to Inverness, lies 10 miles N.E. of that town, at the entrance of the Inverness Firth and the northern extremity of the Caledonian Canal. It was erected after the suppression of the rebellion of 1745. Fort Augustus, built after the earlier rising of 1715, lies at the upper extremity of Loch Ness. Fort William, near the outlet of the river Lochy and at the foot of Ben Nevis, was built under the orders of General Mackay, after the dispersion of the Highland clans in 1689. Two miles N.E. of Fort William is the old castle of Inverlochy, the scene of Montrose's victory over the Campbells, in 1645.

Portree, a fishing town on the east shore of the isle of Skye, is the principal place on the opposite side of the county.

29. ROSS AND CROMARTY.—The united county of Ross and Cromarty has an area of 2,016,375 acres, or 3,151 square miles. Cromartysire consists of as many as fourteen detached portions, most of them of very small dimensions, and so intermixed with the larger county of Ross as to make it difficult to distinguish the two. Hence they are always joined together in statistical documents, and are treated, for nearly all purposes, as a single county. The largest single portion of Cromartysire is on the west side of Scotland, adjoining the estuary of Loch Broom, but the town and extensive firth whence the county derives its name are upon the eastern side of the island, adjoining the Murray Firth.

The coast-line of Ross and Cromarty includes, on its eastern side, portions of the Murray Firth, Loch Beauley, Cromarty Firth, and Dornoch Firth. Cromarty Firth, which is entered by a narrow passage (scarcely more than a mile in breadth) between the headlands known as the Suters of Cromarty, forms within a secure and sheltered bay, of magnificent proportions, and with deep water throughout. The western coast-line, a wild and storm-exposed region of great extent, includes the estuaries of Loch Alsh, Loch Carron, Loch Kishorn, Loch Torridon, Gair Loch, Loch Ewe, Loch Gruinard, Loch Broom, and Loch Enard (the last-mentioned on the border of the shires of Cromarty and Sutherland). The largest of these is Loch Broom, at the entrance of which is the numerous group of the Summer Islands. Little Loch Broom, a smaller but still considerable estuary, is intermediate between Loch Broom and Loch Gruinard.

The large island of Lewis, the most northwardly of the Hebrides, belongs to Rossshire. It is divided from the mainland by the channel of the Minch, which is 24 miles across in its narrowest part. The little group of the Shiant Isles lies in this channel, a few miles off the coast of Lewis.

The surface of the greater part of Ross and Cromarty is high and rugged, consisting of alternate mountain and moorland waste.* This is especially the case in its middle and western portions: within its eastern division, the county includes a considerable extent of undulating land, only moderately elevated, and under regular cultivation.

The higher and strictly mountainous portions of Ross and Cromarty include Ben Wyvis, 3,426 feet; Ben Dearg, 3,551 feet; Ben Alligin, 3,015 feet; and numerous other summits of probably equal or greater height: with Ben Attow, 4,000 feet, on the borders of Invernessshire. The eastwardly and lower division of the county consists principally of two extensive peninsulas—one of them, called the Black Isle, nearly enclosed between Loch Beauley and the Murray and Cromarty Firths; the other and more northwardly, known as Easter Ross, lying between the Firths of Cromarty and Dornoch. The Black Isle has a chain of hills running through its centre, the highest of which, Maol-buy, reaches 798 feet above the sea. The hills within Easter Ross are of greater elevation, but both peninsulas present gently sloping plains to seaward, and include a considerable area of fertile and cultivable land.

Of the numerous streams by which the glens and straths of Rossshire are watered, the most considerable are the Conan, the Carron, and the Oikel—the last-named of them dividing the counties of Ross and Sutherland. The Conan, which flows into the head of Cromarty Firth, carries into the sea the united streams by which Strath Garve, Strath Bran, Strath Conan, and Glen Orrin are watered. The Carron, which flows through Strath Carron, joins the Oikel a short distance above the entrance of the latter into the Dornoch Firth, and within that portion of its valley which is known as the Kyle. The smaller streams of Allness and Aulgraat (or Alt Graat) Waters enter the Firth of Cromarty upon its western side. Another river Carron belongs to the western side of Rossshire, and flows into the head of Loch Carron. The river Ewe, which forms the outlet of Loch Maree, belongs to the western coast.

Of numerous inland lakes belonging to Rossshire, the largest are Loch Maree, Loch Fannich, Loch Luichart, Loch Glass, and Loch

* See p. 486: — Northern Highlands.

Moir. The first-named is by much the most considerable of these, and lies amongst some of the wildest scenery of Britain.

The island of Lewis is generally hilly. A chain of heights runs through the interior in the direction of its length, but the highest elevations are found in a detached group near the western coast, where Meallasbhal is 1,885 feet, and Suaneval 1,404 feet high. The island has in general a naked surface, and is almost destitute of trees, excepting in the neighbourhood of the town of Stornoway.

Geology.—Rossshire (with the adjoining county of Sutherland) exhibits the oldest rocks in the British Islands. A crystalline gneiss, of which the island of Lewis is almost wholly composed, and which also appears on the western shores of the mainland, forms the basis of its rock-formations.* Upon this fundamental gneiss are imposed Cambrian strata (equivalent in age to the deposits classed under that name in North Wales): these consist, in the north of Scotland, of brownish-red sandstones and conglomerates, “resting in gently-inclined beds on the convoluted edges of the older gneiss.” The Cambrian rocks, as well as the lower gneiss, are found along the western mainland of Rossshire, and reach to a considerable distance inland, comprehending the wild and rugged shores of Loch Maree. They are succeeded to the eastward by metamorphic or altered Silurian rocks, of which the chief part of the interior of the county is composed. The Silurian deposits of Rossshire (as of the Scotch highlands in general) consist entirely of the lower members of the Silurian family. The beds that are lowest in position — chiefly quartzose rocks and crystalline limestone — form a narrow belt which lies parallel to the western coast, rising immediately above the Cambrian deposits, towards the interior; to these succeed the rocks that compose the greater part of the central plateau of the Northern Highlands, viz. chlorite and mica-schists, with various quartzose and gneissose rocks. The subsidence of the central plateau to the eastward — i.e. towards the Murray and Dornoch Firths — is marked by old red sandstone (Devonian), the strata of which, superimposed upon the metamorphic rocks, are extensively developed in this and other localities upon the eastern side of Scotland.

The peninsulas of the Black Isle and Easter Ross both fall within the old red sandstone area of Rossshire, and the sandstone is extensively quarried. Both gneiss and granite, with white quartz rock, appear in the high cliffs which border the Murray Firth to the southward of the town of Cromarty.

* The name of “Laurentian” has been given to this rock, which has no equivalent elsewhere in the geology of the British Islands. It corresponds, in point of age and relative position, to a similar rock in Canada.—Murchison and Geikie: *First Sketch of a Geological Map of Scotland*, 1861.

The industry of Ross and Cromartysire is chiefly devoted to agriculture and sheep-pasturage, together with the herring and other fisheries, which are extensively pursued on the coast and in the numerous streams. Within the tracts adjoining the firths, in the eastern division of the county, there is a large area of land under the plough, and a surplus of grain (including wheat of excellent quality) is raised for export. The middle and western divisions are almost wholly pastoral.

The county of Ross and Cromarty includes 33 parishes, 4 of which are insular. The towns and principal villages are:—

	Pop.		Pop.		Pop.
DINGWALL .	2,084	FORTROSE .	928	TAIN .	1,779
CROMARTY .	1,491	Invergordon	1,122	STORNOWAY	2,587

Dingwall, Cromarty, Tain, and Fortrose, are parliamentary boroughs.* The county of Ross and Cromarty returns one member.

Dingwall, the county-town of the united counties of Ross and Cromarty, lies near the head of Cromarty Firth, at the entrance of the Conan river into that estuary. The town of *Cromarty* lies at the entrance of the firth, upon its S. side, and has considerable fishing and general shipping trade. *Fortrose* is beside the narrower portion of the Murray Firth (or the Inverness Firth, as that part of it is sometimes called), eight miles to the N.E. of Inverness. *Invergordon* is a thriving port on the north side of Cromarty Firth.

Tain, a royal borough (and the former county-town of Rossshire), is on the southern shore of Dornoch Firth, at the outlet of a little stream called the Tain Water. Above Tain, the Firth of Dornoch contracts in width, and ultimately narrows into the channel known as the Kyle, where the river Oikel enters the head of the estuary. Within the pass of Invercarron, near the place where the river Carron joins the Oikel, adjacent to the Kyle, Montrose was defeated in 1650, upon the last of his many battle-fields, a few months prior to his execution at Edinburgh.†

Stornoway, the only town of Lewis, lies at the head of an extensive bay on the eastern side of the island. It is a thriving place, with a fair amount of shipping trade. Stornoway owes its origin to

* The towns of Cromarty, Dingwall, Tain, Dornoch, Wick, and Kirkwall, unite in returning one member. Fortrose belongs to the Inverness district of burghs. See *ante*, p. 575.

† The Marquis, throwing aside his cloak and sword, and the insignia of the Garter, with which he had been lately invested, gallantly swam the Kyle, and sought refuge among the rocks of Assynt, within the adjacent county, where he was basely betrayed to his enemies.

James I. (of England), by whom it was founded as a means of introducing civilisation into that distant portion of his kingdom.

30. SUTHERLAND, a maritime county, has an area of 1,207,188 acres, or 1,886 square miles. Its coast-line, which is very extensive, includes portions of the eastern, northern, and southern shores of Scotland. The western and southern coasts of the county are continuous. The former, which extends from Loch Enard to Cape Wrath, includes Loch Inver, Eddrachillis Bay, Loch Laxford, and Loch Inchard: on the northern side of the county, from Cape Wrath eastward to the Caithness frontier, are the Kyle of Durness, Loch Eriboll, and the Kyle of Tongue. The county of Caithness separates the northern coast-line of Sutherland from that portion of its maritime frontier which belongs to the eastern waters of Scotland. In this latter direction Sutherland borders on the Firth of Dornoch, and includes within its limits the inlet of Loch Fleet, upon the western shore of that estuary. Many portions both of the western and northern coasts present bold and lofty shores, especially in the neighbourhood of Cape Wrath, the cliffs of which reach 600 feet in height. The eastern shore is generally low.

The inland borders of Sutherland are marked, to the eastward, on the side of Caithness, by a chain of hills, of moderate elevation; upon the south, on the side of Rossshire, by the course of the river Oikel and the upper part of the Dornoch Firth. Numerous small islands adjoin the western and northern coasts. Off the northern side of the county, at a considerably greater distance (upwards of 30 miles from the mainland) are the high and rocky islets called the Sule Skerry and the Stack Skerry.

The interior of Sutherland exhibits principally a succession of high mountains, barren moors and mosses, and deep valleys or straths, in the bottoms of which are long and narrow lakes. The western portion and north-western portions of the county, which are the more generally elevated, include the high summits of Ben More Assynt, 3,281 feet; Ben Hee, 2,858; Foinaven, 3,015; and Ben Hope, 3,061 feet. Ben Klibreck, nearly in the centre of the county, reaches 3,157 feet. The longer slope of the county is directed to the south-east, towards the Firth of Dornoch.

The most considerable amongst the numerous streams of this county are — the Oikel, the Fleet, the Brora, and the Ullie (or Helmsdale) Water, all flowing into the Firth of Dornoch: the Halladale, Strathy, and Naver, flowing towards the northern coast. None of these streams are navigable, but most of them contain valuable salmon fisheries.

The Oikel, the largest of the Sutherlandshire rivers, receives on its left bank the stream of the Shin, which issues from Loch Shin, an extensive fresh-water lake, the largest in the county. The other principal lakes are Loch Assynt, Loch Naver, Loch Laoghall, and Loch Hope. The valley in which Loch Shin lies forms part of a depression which extends nearly across the entire breadth of the county, from the eastern to the western sea, between the Firth of Dornoch and Loch Laxford.*

The *geology* of Sutherland is identical with that of the neighbouring county of Ross. The western coasts exhibit the fundamental gneiss (Laurentian) which is now regarded as the oldest of the Scotch rocks: this is succeeded by Cambrian and altered Silurian deposits, the last-named of which include within their area the far larger portion of the county. Old red sandstone appears towards the neighbourhood of the eastern coast, and overlies the Silurian deposits.

The sedimentary rocks on the eastern side of the county, towards the Dornoch Firth, consist chiefly of old red sandstone, below which, immediately adjacent to the shore-line, from the mouth of the Helmsdale Water southward to the entrance of Loch Fleet (a distance of nearly twenty miles), are oolitic strata. In the neighbourhood of Brora, within this range of coast, coal occurs amongst the oolite formations: its quality, however, is not such as to give it any commercial value. The sandstone strata of the west coast belong to the Silurian period.

Sutherland is the least populous portion of Scotland. Its industry is chiefly devoted to the fisheries and to sheep farming. The lobster, cod, ling, and herring fisheries are extensively prosecuted within the numerous estuaries and bays, as well as in the adjoining seas. Arable husbandry is chiefly pursued within the south-eastern division of the county, where good crops of barley and oats, with occasionally wheat, are raised in the lower grounds. Wild deer range over the woodland tracts of the interior: these latter are of considerable extent, and large plantations of fir, larch, and other trees have been formed within recent periods.

Sutherland includes 13 entire parishes, with a portion of one other parish. Its only town is DORNOCH, a parliamentary burgh,† with a

* The upper part of the Dornoch Firth, the valley of the river Shin, Loch Shin, and the smaller Lochs of Griam and Merkland, belong to the south-eastwardly slope of this prolonged depression. The upper extremity of Loch Merkland is less than two miles distant from Loch More, the waters of which pass, by Loch Stack and the river Laxford, into Loch Laxford, an estuary of the western coast. This remarkable depression may be readily traced upon an ordinary map.

† Dornoch is a member of the Wick district of burghs. See p. 583.

population of 647. Dornoch lies at the entrance of the firth to which it gives name, and upon its northern side. It was the former seat of the bishops of Caithness, whose cathedral occupied the site of its parish church. The villages of Golspie, Brora, and Helmsdale, upon the coast to the northward, have some shipping trade. Dunrobin Castle, the residence of the dukes of Sutherland, is two miles to the N.E. of Golspie.

31. CAITHNESS, a maritime county, the most northerly portion of the Scotch mainland, has an area of 455,708 acres, or 712 square miles. Its coast-line includes the conspicuous promontories of Dunnet Head and Duncansby Head — the former the extreme north point of Britain. Noss Head, Clyth Ness, Berriedale Ness, and the Ord of Caithness, are noteworthy headlands on the eastern coast-line of the county. The inlets of Sandside Bay, Thurso Bay, and Dunnet Bay, on the north, with Sinclair and Wick Bays, on the eastern side, belong to the coast of Caithness. The Pentland Firth, from six to eight miles in breadth, divides the northern coast of Caithness from the group of the Orkney Islands. The island of Stroma, upon the south side of the firth, belongs to Caithness.

Though regarded as a Highland county, the greater part of Caithness is only of moderate elevation, the land spreading generally into extensive wastes of moorland, portions of which are almost entirely level. There are hills of moderate height along the Sutherland border; these rise, in the extreme south of the county, into the higher elevations of the Morven Hills, which form two distinct groups, divided by the stream of the Langwell water: Morven, in the more northwardly group, is 2,331 feet, and Searabein 2,048 feet high.

The principal streams of Caithness are the Langwell and Berriedale Waters (which enter the sea in a united channel a short distance northward of Berriedale Ness), the Water of Wick, Thurso Water, and Forss Water. The two last-named belong to the northern coast. The Wick river, which flows into Wick Bay, issues from Loch Watten, the largest of numerous inland lakes belonging to the county.

Geology.—Almost the whole of Caithness belongs to the old red sandstone formation. The strata of this series are quarried in several localities, and supply abundance of freestone, with slates and flagstones, the latter of which are shipped to Newcastle, London, Glasgow, and other places. Granite appears both in the west and extreme south-east of the county; portions of the Morven group consist of quartzose rocks.

The industry of the Caithness population is chiefly devoted to the fisheries and to agriculture, employment in which is in most cases alternately followed, according to the season of the year. The herring-fishery is the most important. Many people are employed

in the flagstone and other quarries. Arable husbandry is pursued with success, but the greater part of the cultivable land is in pasture. Both sheep and cattle are numerously reared for the supply of the southern markets.

Caithness includes 9 entire parishes, with a portion of one other parish. Its only towns are Wick and Thurso, the former of which is the county-town, and a parliamentary burgh.*

	Pop.		Pop.
WICK	7,475	THURSO	3,426

Wick is situated upon the eastern coast of the county, at the outlet of a stream which is called by its name. It is the principal seat of the herring-fishery in the north of Scotland, and is a flourishing seaport: upon the opposite side of the stream at the mouth of which it stands is Pulteney Town, which forms its suburb. *Thurso*, upon the north shore of the island, has a good harbour and some trade.

At the north-eastern extremity of Caithness, to the west of Duncansby Head, is a spot known as John o'Groat's house, though no edifice of any kind now exists there, nor is its open and exposed locality such as to have ever rendered it likely to be regarded as an attractive place of residence.

32, 33. ORKNEY AND SHETLAND. The counties of Orkney and Shetland, composed respectively of the Orkney and Shetland Islands, have a united area of 598,726 acres, or 935 square miles. Of this area, the Orkney Islands include about 400 square miles, and the Shetland group about 530 square miles. The extent over which the islands lie scattered is very considerable. Between the southernmost extremity of the Orkneys and the most northerly headland of the Shetland group is a distance, measured in a straight line, of above a hundred and sixty miles. The groups themselves are separated by fifty miles of intervening sea (between the extreme point of North Ronaldsha, in the Orkneys, and Sumburgh Head, the southernmost extremity of the Shetlands), which is only broken by Fair Island, a detached rock, about midway between them.

The natural features of the Orkney and Shetland Islands have been briefly described elsewhere.† The numerous headlands, with deep intervening bays, by which their shores are everywhere broken, the fantastic outline which they present to the waters, and the many sheltered harbours which the recesses of their coasts enclose, are amongst their most characteristic features. In the case of the more northwardly group, the deep and narrow inlets of the coast,

* Wick unites with Cromarty, Dingwall, Dornoch, Tain, and Kirkwall in the return of a member. The county returns one member.

† See *ante*, p. 489.

which are locally distinguished as "Voes," resemble, on a smaller scale, the fiords of the Norwegian coast.

The *geology* of the Orkneys exhibits almost throughout red sandstone, of the "old" or Devonian period. Beds of sandstone of yellowish or tile-red colour, with sandstone flags, much charged with argillaceous matter, constitute the uniform strata of hills and plains alike. The only exception occurs in the island of Pomona, or Mainland, where a chain of low hills, composed of granite and its accompanying gneiss, stretches northward from Stromness for a few miles.

The geological formation of the Shetland group is more various. The rocks are chiefly primitive, gneiss and clay-slate covering the largest areas. The southwardly and narrower portion of Mainland consists of a long ridge of clay-slate, flanked on its eastern side by red sandstone. Quartz, of bluish grey colour, occupies a considerable part of the surface of Mainland, to the west of its central gneiss. Granite, sienitic greenstone, and trap, appear in the same island. The island of Yell is composed entirely of gneiss. The more northwardly island of Unst consists principally of serpentine and diallage rock, with gneiss and mica-slate upon its western side. Mica-slate also appears on the eastern side of Fetlar. There are veins of copper and other mineral ores in several parts of the Shetland group.

The population of both the Orkney and Shetland groups are chiefly engaged in the fisheries, which are of very high value. The herring, cod, ling, and tusk fisheries are those of most importance. The herds of whales which approach the shores, in pursuit of the smaller fish as food, are occasionally captured for the sake of their oil, and seals are killed in great numbers round the rocky coasts of the islands. There is little of arable husbandry, but oats and barley (the kind known in Scotland as bear, or bigg) are grown, together with turnips, potatoes, and other vegetables. Cattle, generally of small size, are numerous reared on the open moorlands of either group. The Shetland ponies are well known, and are annually exported in great numbers. The native sheep of the Shetland group furnish a remarkably fine wool, which is worked by the inhabitants into stockings, gloves, and other articles. Straw-plait is made to some extent by the female population of the Orkneys.

The population of the Orkney Islands amounted, in 1861, to 32,395. These islands include 18 parishes. The only towns on this group are KIRKWALL and STROMNESS, both situated on the island of Mainland. The former is a parliamentary burgh.*

* See *ante*, p. 583 (*note*). One member is returned by the united counties of Orkney and Shetland.

Kirkwall (pop. 3,519) lies at the head of a bay on the N. coast of the island of Pomona, or Mainland. It has the largest share in the shipping trade of the Orkneys. The ancient cathedral, one of the most remarkable in Scotland, and the ruins of the former palace of the bishops of Orkney, attract the notice of strangers. *Stromness* (pop. 1,795) is on the south coast of the same island, and is a port of some note, with a good harbour. *St. Margaret's Hope*, upon the N. coast of South Ronaldsha Island, has also a good harbour, and forms one of the principal stations for the herring-fishery.

The Shetland Islands had in 1861 a population of 31,670. They form 12 parishes. Their only town is **LERWICK** (pop. 3,061), situated upon the east side of the island of Mainland, and the principal shipping port of the islands. There are several smaller ports, both on Mainland and the other islands of the group; the principal of these is *Scalloway*, on the W. coast of Mainland (6 miles W. by S. of Lerwick), which was the former capital of the Shetlands.

The Orkney and Shetland Islands, though associated for convenience of geographical arrangement with the highland portion of Scotland, differ in many essential regards from the highland region of the Scotch mainland. They were early peopled by a Scandinavian race, and were long subject to the rule of the Northern seakings. They remained subject to the kings of Norway and Denmark down to the middle of the 15th century, when both groups finally passed to the crown of Scotland (1468), in mortgage for a sum of money stipulated to be paid as the dowry of Margaret of Denmark, the bride of James III. of Scotland. The mortgage was never redeemed, and the islands have since remained annexed to the Scottish crown. During some of the later portions of their term of subjection to Norwegian rule, the islands were under the sway of their own earls (of Northern blood), who exercised a power that was virtually independent. Most of the customs which, until a comparatively recent period, prevailed among the islanders indicate a northern origin, as do many of their external remains of antiquity. Upon both groups, however, there are numerous monuments, such as cromlechs, tumuli, round towers, &c., which appear to belong to a yet older period, and point to a prior Celtic race. During their time of subjection to Norwegian rule, the Norse language was spoken among the islanders; this has long since become extinct, and has been replaced by the dialect of Lowland Scotland.

CHAPTER XVII.

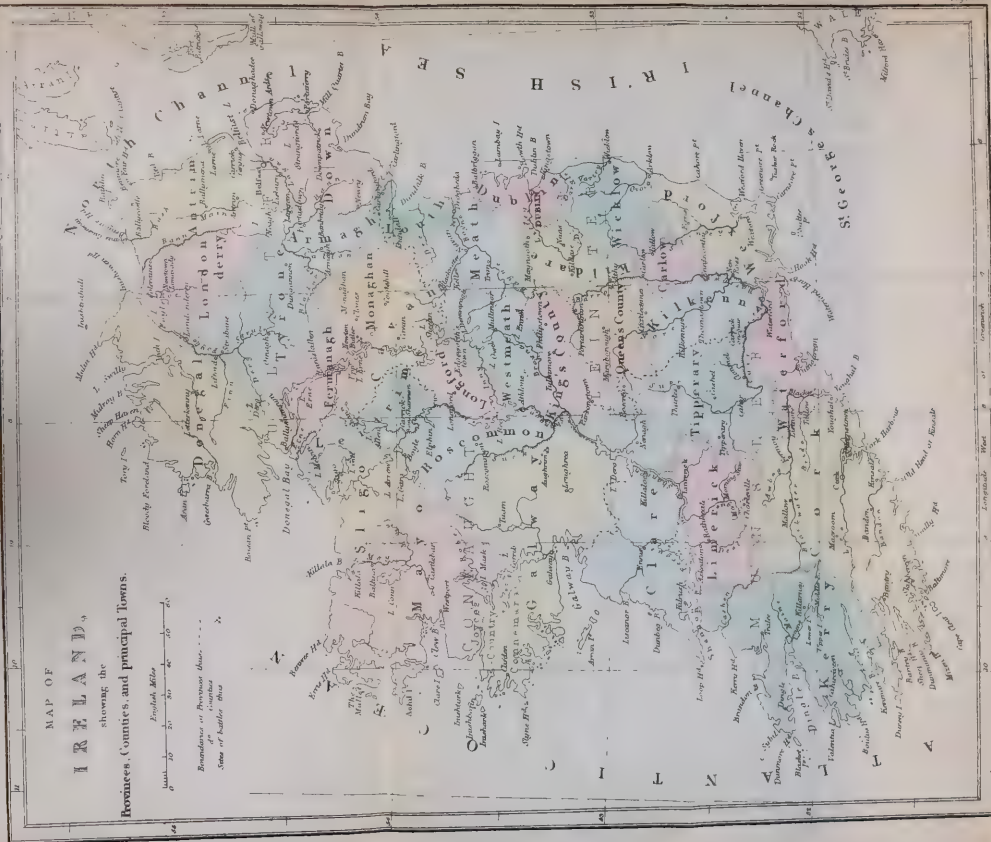
IRELAND.

I. PHYSICAL GEOGRAPHY.

AREA AND BOUNDARIES. — Ireland is bounded on the north, west, and south by the Atlantic Ocean, and on the east by the Irish Sea, which communicates with the ocean by the North Channel, and St. George's Channel. The nearest approach made by Ireland to the shores of Britain is at its north-eastern extremity, where the promontory called Fair Head is only 13 miles distant from the Mull of Cantire in Scotland; this is the narrowest portion of the North Channel: farther south, between Donaghadee (in the county of Down) and Port Patrick, on the coast of Wigton, is a distance of only 22 miles. St. David's Head, on the coast of Wales, is 53 miles distant from Carnsore Point, at the S.E. extremity of Ireland,—the intervening sea forming the narrowest part of St. George's Channel.

The most northern point of Ireland is Malin Head, lat. $55^{\circ} 22'$; the most southern, Mizen Head, is in lat. $51^{\circ} 26'$. A straight line drawn between these two points measures 290 miles: the mean length of the island, however, from Malin Head to the south coast of Waterford, is about 220 miles. The most eastern point, on the coast of Down, is in $5^{\circ} 26'$ W. longitude; — the most western, Dunmore Head, in $10^{\circ} 29'$.

The greatest breadth of Ireland, in the direction of east and west, is 175 miles, and the least (between the heads of Donegal Bay and Belfast Lough) less than 90 miles. Between the opposite bays of Dublin and Galway, the distance is 110 miles. The mean breadth of the island is about 140 miles.



The mean length and breadth of Ireland bear less unequal proportion to one another than is the case either with England or Scotland, and the island, regarded as a whole, has a squarer and compacter form. Its general shape, disregarding the extreme projections of the land, resembles that of an oblique parallelogram, or rhomboid, the sides of which are formed by lines drawn between the promontories of Fair Head in the north-east, Erris Head in the north-west, Mizen Head in the south-west, and Carnsore Point in the south-east. The figure formed by straight lines connecting these points gives a correct general outline of the country, and the direction of its coasts.

The superficial extent of Ireland is 32,513 square miles (8,420,867 hectares), and the entire length of its coast-line, measured along the numerous estuaries of its western and northern shores, probably exceeds 2,000 miles.

CAPES.—The principal headlands of the Irish coast are—

<i>On the north.</i>		<i>On the south.</i>	
	Height in Feet		Height in Feet
Fair Head, or Benmore (Antrim)	626	Mizen Head (Cork)	
Bengore Head (Antrim)	400	Cape Clear, on island (do)	
Malin Head (Donegal)		Old Head of Kinsale (do.)	
Horn Head (do.)	921	Hook Head (Wexford)	
		Carnsore Point (do.)	
<i>On the west.</i>		<i>On the east.</i>	
Rossan Point (Donegal)		Greenore Point (Wexford)	
Erris Head (Mayo)		Cahore Point (do.)	
Achil Head (do.)		Wicklow Point (Wicklow)	
Slyne Head (Galway)		Bray Head (do.)	
Loop Head (Clare)	248	Howth Head (Dublin)	549
Kerry Head (Kerry)		Clogher Head (Louth)	181
Dunmore Head (do.)			

Adjacent to Bengore Head, on the west, is the Giant's Causeway, a basaltic promontory which projects into the sea for upwards of 1,000 feet, and consists of huge piles of prismatic columns, arranged side by side with the most perfect regularity.

The north, north-west, south-west, and south shores of

Ireland are generally high and rocky, exhibiting in many places rugged and precipitous cliffs, hollowed into various forms by the ceaseless action of the Atlantic waves.

The eastern coasts are generally low and flat, and on this side of the island the sea in the immediate vicinity of the shore is much obstructed by sunken rocks, bars, and sand-banks. These are especially numerous on the north-east coasts, off the shores of Down and Antrim, and along the coast to the south of Dublin.

ESTUARIES, BAYS, &c.—The principal inlets on the east coast are—Dublin Bay, Dundalk Bay, Carlingford Lough, Dundrum Bay, Strangford Lough, and Belfast Lough. On the north coast are Lough Foyle and Lough Swilly.

On the west side of the island are—Donegal Bay, Clew Bay, Galway Bay, the mouth of the Shannon, Dingle Bay, Kenmare Bay, and Bantry Bay.

On the south coast, the most considerable inlets are the harbours of Cork and Waterford.

The west and south-west coasts are more indented and irregular in shape than any other part of the island. The numerous inlets enclose various peninsulas, of which the most remarkable is that called the Mullet (on the north-west coast of Mayo): this is connected with the mainland by an isthmus less than half a mile broad.

The sea on the western coasts both of Ireland and Scotland is generally deep, and at a distance of about 60 miles from the Irish coast sinks suddenly from 100 to upwards of 200 fathoms. Here the proper bed of the ocean may be said to commence, the entire group of the British Islands being based upon a submarine bank, or plateau.

DIVISIONS.—Ireland is divided into four provinces, Ulster, Leinster, Munster, and Connaught; and into thirty-two counties, of which Ulster contains nine, Leinster twelve, Connaught five, and Munster six. Ulster occupies the north and north-east part of the island, Leinster the east and south-east, Connaught the west and north-west, and Munster the south-west, portions.

The names of the counties, with their areas, in English square miles, are given in the following table : —

LEINSTER.				Square Miles	ULSTER.				Square Miles
Dublin				354	Armagh				513
Meath				906	Down				957
Louth				315	Antrim				1,190
Westmeath				709	Londonderry				810
Longford				421	Donegal				1,865
King's County				772	Tyrone				1,260
Queen's County				664	Fermanagh				714
Kilkenny				796	Monaghan				500
Carlow				346	Cavan				746
Kildare				654					
Wicklow				781					
Wexford				901					
					MUNSTER.				
CONNAUGHT.					Clare				1,294
Leitrim				613	Limerick				1,064
Roscommon				950	Tipperary				1,659
Sligo				722	Waterford				721
Mayo				2,131	Cork				2,885
Galway				2,447	Kerry				1,853

FEATURES OF SURFACE. — Ireland is generally level in the interior; its mountains are chiefly found in the immediate neighbourhood of the coast. Between Dublin Bay on the east, and Galway Bay on the west, a great plain stretches entirely across the island: the highest parts of this central plain are not more than 320 feet above the level of the sea. It extends northward to the shores of Lough Neagh, in the province of Ulster, and southward nearly to the borders of Waterford, in the province of Munster: its southern half, however, is diversified by hills of considerable elevation.

The mountains of Ireland do not form continuous chains, but constitute detached groups and highland masses, which at different localities intervene between the interior plain and the sea. They may be regarded, for the purpose of brief description, under six headings, viz.: — The Mountains of Wicklow, — the Mourne Mountains (in the county of Down), — and the Mountains of Antrim, — on the east

coast of the island ; — the Mountains of Donegal, in the north-west ; — the Mountains of Connemara and Mayo, in the west ; — and the Mountains of Kerry, in the south-west.

1. The *Mountains of Wicklow* cover an extensive tract, which measures nearly 60 miles from north to south, and about 30 miles from east to west. Their highest summit, Lugnaquilla (in the centre of the mountain-region), is 3,039 feet above the sea, and is the third in elevation of the Irish mountains. Numerous other summits in the group exceed 2,000 feet. This mountain-region contains numerous small lakes and waterfalls, and is highly distinguished for the variety and beauty of its natural scenery.

2. The *Mourne Mountains* occupy a projecting portion of the coast, intermediate between Dundalk and Dundrum Bays, and rise in elevated masses from the immediate neighbourhood of the shore. Their highest summit, Slieve-donard, is 2,788 feet above the sea. Several other summits belonging to the group are nearly as elevated. Slieve-more (closely adjacent to Slieve-donard on the west) is 2,443 feet, and Slieve-beg, 2,384 feet. Slieve-bingian, to the southward, is 2,449 feet.

3. The *Mountains of Antrim* form a kind of plateau which intervenes between Lough Neagh and the shores of the North Channel, and the highest portions of which are on its eastern side, immediately adjacent to the coast. The loftiest of the Antrim mountains is Trostan (in lat. $55^{\circ} 2'$, a short distance S.W. of Cushendall and the shore of Red Bay), which reaches 1,810 feet. Slieveanee, adjacent to Trostan on the S.W., is 1,782 feet. Several other points are nearly as elevated. Divis, to the west of Belfast, is 1,559 feet high. This mountain tract terminates on the north-east in the promontory of Fair Head.

4. The *Mountains of Donegal* form a high mountain-mass, intersected by parallel valleys which extend in a general direction of north-east and south-west. They contain several summits which exceed 2,000 feet in height, the

loftiest of which is Errigal (lat. $55^{\circ} 3'$, long. $8^{\circ} 5'$), 2,462 feet. The cliffs which line the coast adjacent to Rossan Point, forming the seaward termination of a portion of the mountain tract, are 750 feet in height. Slieve League, to the south-east of the same point, rises precipitously close to the shore, and is 1,964 feet high.

Between the Mountains of Donegal and the mountain-region of Antrim some high ranges extend (to the south of Lough Foyle), in an east and west direction, through the county of Londonderry. Sawell, within this tract of country (lat. $54^{\circ} 49'$, long. $7^{\circ} 2'$), is 2,236 feet in height.

5. The mountain tract which extends along the western shores of Mayo and Galway, between Donegal and Galway Bays, is divided into two parts by the broad inlet of Clew Bay (lat. $53^{\circ} 50'$). To the north of Clew Bay are the Nephin Beg Mountains and the high summit of Nephin, — to the south, the *Mountains of Connemara*, which embrace a number of detached groups and insulated eminences, divided by deep and narrow valleys. In the Nephin Beg Mountains the highest summit is 2,368 feet; Nephin, farther to the eastward, is 2,639 feet high. The cliffs on the north coast of Achil Island, which is only divided from this part of the mainland by the narrow channel of Achil Sound, are from 900 feet to 1,800 feet in elevation. In the Mountains of Connemara, Mweelrea, adjacent to the west coast, is 2,680 feet in height, and some others reach upwards of 2,000 feet.

6. The *Mountains of Kerry* form several parallel ranges which extend (in a general east and west direction) through the county of that name, and into the adjacent county of Cork. Between these ranges the sea penetrates far within the land, and forms the numerous long and narrow estuaries which distinguish the south-west portion of Ireland. The highest summit among the mountains of Kerry, and also the highest in the island, is Carrantual, in the group of Macgillicuddy's Reeks (on the west side of the Lakes of Killarney), 3,404 feet above the sea. Mangerton, on the

south-east side of the same lakes, is 2,754 feet. Mount Brandon, in the peninsula lying to the north of Dingle Bay, is 3,120 feet, and is second in height among the mountains of Ireland. Hungry Hill, within the neck of land that stretches between Kenmare and Bantry Bays, reaches 2,249 feet.

Besides the mountain systems above described, there are other ranges of less extent, as the Slieve Bloom Mountains (on the borders of King's County and Queen's County), 1,691 feet,—the Silver Mine Mountains (in the north-west of Tipperary), 2,265 feet,—the Galty Mountains (on the borders of Tipperary and Limerick), 3,008 feet,—and the Knockmeiledown Mountains (on the borders of Tipperary and Waterford), 2,598 feet. The Galty and Knockmeiledown ranges, with others in the south of Ireland, form prolongations of the mountains of Kerry, and have the same general parallelism of direction from east to west.

A large portion of the surface of Ireland consists of bog-land, which prevails most extensively in that part of the central plain which lies between Dublin and Galway Bays, and among the mountain tracts of the western coast. Bogs occur also in other parts of the island, among the mountains of Wicklow, and those of the north-eastern coast. The bogs of Ireland bear no analogy to the fen districts of England; they lie in all cases at some elevation above the level of the sea, varying in height from 100 to 2,000 feet, and are hence readily susceptible of drainage.

The total extent of bog-land is estimated to cover about 12,500 square miles, or nearly two-fifths of the whole surface of the island: the larger portion of this is flat red-bog, capable of being reclaimed for cultivation; the remainder consists of mountain-bog, mostly convertible into pasture-land. The bogs are distinguished, according to the substance of which they are composed, into red or fibrous, and black or compact. The red bogs, which occur most extensively in the region of the central plain, furnish abundance of peat, which forms the fuel most generally used in Ireland.

ISLANDS.—These are all of small size, and lie closely adjacent to the coast. On the east side are — *Dalkey Island* (on the south side of the entrance to Dublin Bay) — *Ireland's Eye*, a hill of pyramidal form (on the north side of the peninsula of Howth) — and *Lambay Island*, a few miles farther northward.

On the north coast are — *Rathlin Island* (7 miles long and $\frac{3}{4}$ broad), which consists of steep basaltic rocks — *Inish-trahull*, a small islet to the north-east of Malin Head — *Inch Island*, situated in Lough Swilly — and *Tory Island*, off the north-west coast of Donegal.

On the west side are — *Aran Island*, off the west coast of Donegal — *Eagle Island* and several other small islets situated to the west of the peninsula of the Mullet — *Achil Island* (about 55 square miles in area), covered with mountains, the highest of which rises to 2,222 feet — *Clare Island* and several others to the west of Clew Bay, and along the adjacent shores of Galway — and the group of the *Arran Islands* (three in number, the largest about 12 square miles), at the entrance of Galway Bay.

Off the south-west coast is a group of islets called the *Blaskets*, to the west of Dunmore Head. Farther south is *Valentia Island* (on the south side of the entrance of Dingle Bay), which has an area of 10 square miles; it is of moderate elevation, and is very fertile. *Cape Clear Island*, the most southern portion of Ireland, includes about 4 square miles; it is surrounded by high cliffs, and is generally barren.

RIVERS.—The longest river of Ireland is the *Shannon*, which flows 224 miles from its source (in the county of Cavan, at a height of 345 feet above the sea) to the Atlantic Ocean, between Loop and Kerry Heads — forming in the last 60 miles of its course a magnificent estuary, from 1 mile to 11 miles broad. It is navigable from the sea to Lough Allen, a distance of 213 miles, by the aid of some short artificial cuts, the principal of which avoids the rapids of Doonas, a few miles above Limerick. The fall of the Shannon, like that of the Spey, is greater in the lower than

in the upper part of its course. It passes through three considerable lakes (Lough Allen, Lough Ree, and Lough Derg), and drains a surface of nearly 7,000 square miles. Its most considerable tributary is the river Suck, which joins its right bank.

The other principal rivers of Ireland, proceeding in succession round the coast, are—on the south, the *Bandon* (46 miles), the *Lee* (60 miles), the *Blackwater* (90 miles), and the *Barrow* (114 miles), with its tributary the *Suir* (100 miles).

The Bandon is navigable to Innishannon, a distance of 13 miles. The Lee drains an area of nearly 600 square miles, and forms at its mouth the magnificent harbour of Cork, one of the finest in the world: it is not navigable above Cork. The Blackwater has a basin of 1,165 square miles, and is navigable to Fermoy, 36 miles above its mouth.

The Barrow and the Suir, both of which rise in the Slieve Bloom Mountains, and unite to form the estuary of Waterford Harbour, drain a very extensive tract of country, comprehending above 3,400 square miles. The river Nore, a considerable tributary of the Barrow, joins its right bank. The Barrow is navigable to Athy, 60 miles from the sea; the Suir to Clonmel, a distance of 40 miles; the Nore to Thomastown, 28 miles above its junction with the Barrow.

On the east coast are, the *Slaney* (70 miles); the *Liffey* (75 miles); the *Boyne* (80 miles); and the *Lagan* (42 miles), flowing into Belfast Lough. The Slaney, which forms at its mouth the harbour of Wexford, is navigable to Enniscorthy (15 miles): the area of its basin exceeds 700 square miles. The Liffey has the metropolis, Dublin, at its mouth, but is not a navigable river. The Boyne, which drains about 1,000 square miles, is navigable to Navan, 25 miles above its mouth.

On the north coast the two principal rivers are the *Bann* (from Lough Neagh); and the *Foyle*, which flows into Lough Foyle. The Bann is divided into the Upper and the Lower

Bann; the Upper Bann is the portion above Lough Neagh, and has its source in the Mourne Mountains. The total length of the Bann is about 90 miles, and the area of its basin above 2,300 square miles: it is navigable to Coleraine, five miles above its mouth. The Foyle, 80 miles to its most distant source, is formed by the union of several streams, and drains an area of 1,100 square miles: it is navigable to Strabane, 20 miles above its mouth.

LAKES.—*Lough Neagh*,* the largest lake in the British Islands, is 20 miles long and 10 in average breadth, and has an area exceeding 150 square miles. Its elevation above the sea-level is only 48 feet; its greatest depth is 102 feet,—its average depth, however, not more than from 40 to 50 feet. Its shores are low and flat. The waters of Lough Neagh are celebrated for their petrifying quality.

Lough Erne consists of two parts — an Upper and a Lower Lake, which are connected by the winding channel of the river Erne: they are both (the Upper Lake especially) interspersed with numerous islands. Their total area is 57 square miles: the greatest depth of the Lower Lake is 226 feet, and its height above the sea-level 150 feet. The river Erne flows from the western extremity of Lough Erne into Donegal Bay.

Lough Allen (161 feet above the sea), *Lough Ree* (125 feet), and *Lough Derg* (110 feet), all belong to the course of the Shannon, and are long and narrow in shape. Lough Allen has an area of 14 square miles; Lough Ree of 41 square miles; and Lough Derg, of 46 square miles. The shores of Lough Ree are low and flat, but Lough Derg is bordered on the south by high mountains.

There is also another and smaller *Lough Derg* ($3\frac{1}{4}$ square miles), in the south of Donegal, which lies at an elevation of 467 feet. On a small island which it contains is a cave called St. Patrick's Purgatory, a noted place of pilgrimage to the Catholic population of Ireland.

* Like the term "loch" in Scotland, the word "lough" in Ireland is applied both to inlets of the sea and to fresh-water lakes.

Lough Mask, in the western part of Connaught, has an area of 35 square miles, and is at a height of 68 feet: it communicates by a subterranean channel with *Lough Corrib*, which lies at a lower level. *Lough Corrib* is divided into two parts by a narrow channel: its total area is 68 square miles. Its waters are discharged into Galway Bay, by a stream at the mouth of which is the town of Galway.

The *Lakes of Killarney*, situated amongst the mountains of Kerry, are three in number, an Upper, Middle, and Lower Lake, all connected with one another, and of which the latter expands to the largest size. Their total area is about 10 square miles. The greatest depth of the Lower Lake is 252 feet, and its height above the sea-level 68 feet. The Lakes of Killarney are celebrated for their picturesque beauty: on their western side the highest mountains of Ireland rise steeply from the edge of the water.

There are numerous smaller lakes in the island. Including these latter, the entire superficial area of the Irish lakes exceeds 700 square miles.

Beside lakes, properly so called, *turloughs*, or periodical sheets of water, abound in some parts of Ireland, especially within the counties of Galway, Clare, and other parts of the west. These are temporary lakes, the waters of which are absorbed, during a few months of summer, within the cavities of the limestone plain in which they occur. A crop of coarse grass then occupies the basin of the turlough, which is used for grazing purposes. The waters generally rise in September or October, and remain on the surface until the ensuing May. Some of the turloughs are of considerable size, one of those within Galway measuring more than three miles across.

GEOLOGY AND MINERALS.—The great feature in the geology of Ireland is the predominance of limestone, belonging to the carboniferous period. The whole interior of the island is a vast plain of carboniferous limestone, round the borders of which are various older rocks — many of them of igneous origin — protruded through its surface, and rising to con-

siderable elevations above its level. Of the older sedimentary rocks, red sandstone (Devonian) and clay-slate (Silurian) occupy the most extensive areas, and predominate especially in the mountain-tracts of the south and south-east, i.e. in the counties of Kerry, Cork, Waterford, the mountainous parts of Wexford and Wicklow, and the south-eastern division of Ulster. The mountain-region of the north-west — Donegal and the adjacent part of Londonderry — consists chiefly of mica-slate, intermingled with quartz, metamorphic limestone, granite, and various igneous rocks. The mountains of Mayo and Galway are similarly constituted. Tabular trap covers nearly the whole of Antrim, and appears on the northern coast of that county in the basaltic columns of the well known Giant's Causeway. In general, the older fossiliferous rocks, with those of crystalline texture, intervene between the limestone of the central plain and the waters of the surrounding seas: but between the bays of Dublin and Galway the limestone plain stretches continuously across the island, from sea to sea.

The carboniferous limestones of Ireland are divided into three series — upper, middle, and lower. The lower series, which covers by far the largest area, is a thick-bedded grey limestone, sometimes dolomitic and oolitic in structure. The middle limestone (or calp series) is of blackish or dark grey colour, and often alternates with beds of shale. The upper or bluish limestone is of compacter and more crystalline texture, and is sometimes dolomitic or oolitic, alternating occasionally with shale.

Sedimentary strata of later origin than the carboniferous period are but sparingly developed in Ireland, and are altogether absent over by far the larger portion of the island. The millstone-grit and coal, which in England and Wales are everywhere superimposed upon the carboniferous limestones, are here generally wanting. Even in those portions of the island where coal-measures occur, as in the counties of Clare, Kerry, Limerick, Tipperary, Cork, Waterford, and Kilkenny, the beds of coal are in general found

compressed to a few inches in thickness, so that coal-mining is there conducted like vein-mining.* The coal-measures are here of the same age as the upper limestone shale of England. In the coal-fields of Ulster, at Ballycastle (in the N.E. of Antrim), and in the eastern part of Tyrone, the coal-measures are underlaid by millstone-grit, and belong to the same age as those of England.

Coal occurs in Ireland within the counties of Antrim, Tyrone, Leitrim, Clare, Kerry, Cork, Limerick, Tipperary, Kilkenny, and Queen's County. It is, however, generally of very inferior quality to that furnished by the coal-fields of Great Britain, and is comparatively little worked. The coal of the Irish coal-measures is mostly of the nature of anthracite. A considerable portion of that raised is only used for the purpose of burning lime. The best for domestic purposes is found to the west of Lough Neagh, in the neighbourhood of Dungannon. Peat, however, is the fuel exclusively used by the labouring population, and the towns are chiefly supplied with coal from the ports of England and Scotland.

Iron ore occurs in many places, especially within the coal district of Leitrim, lying round Lough Allen, but the scarcity of coal has caused its working to be almost wholly abandoned.

Both *copper* and *lead* are worked in the counties of Waterford, Cork, and Kerry, and copper also in Wicklow, but the produce is not considerable. The copper ore is sent to Swansea to be smelted. Small quantities of both gold and silver are found in the mountain-region of Wicklow.

Granite is abundant in many parts of the country, and in the counties of Donegal and Galway excellent statuary marble is found. Limestone is nearly everywhere abundant.

* Hull: Coal-fields of Great Britain. "That Ireland (says Mr. Hull) was once covered over two-thirds of its extent by coal-beds, is a proposition which we may confidently affirm on geological grounds; but the misfortunes of the sister isle began long before the landing of Strongbow, for old Father Neptune has swept the coal and coal-strata clean into his lap, and left little but a bare floor of limestone behind."

On the southern and western borders of Lough Neagh there is an extensive deposit of clay, which is found only at a few other places in Ireland, and in small quantities. Antimony, manganese, and fullers' earth, are found in some places, and slate is quarried to a small extent, chiefly in the valley of the Blackwater, near Lismore.

Mineral springs occur at Mallow (in the county of Cork), the water of which is saline, and of a temperature 23° above that of the atmosphere; — chalybeate waters at Castle Connell, near Limerick, and in the neighbourhood of Tralee (Kerry); — and sulphurous waters at Swanlinbar, in the county of Cavan, and Lucan, near Dublin.

CLIMATE.—The climate of Ireland differs chiefly from that of England in its greater degree of moisture. About 31 inches of rain fall annually at Dublin, and 40 inches at Cork. The atmosphere is at all times largely impregnated with moisture, and the average number of days upon which rain falls, amounting to 208 annually, is greater than in any other country in Europe. This results from the perfectly insular situation of the country, and the prevalence during three-fourths of the year of westerly winds, charged with the vapours of the Atlantic. The almost constant humidity of the air is the cause of the generally verdant aspect by which Ireland is distinguished; the trees hence remain longer in leaf than in England.

The western coasts of Ireland are warmer than similar latitudes in Great Britain, and the whole island has a more equable average temperature, its extremes of heat and cold being confined within much narrower limits than is the case either in England or Scotland.

The plants and animals are generally the same as those which belong to Great Britain. There are some local peculiarities, but these are not of importance. The arbutus, a beautiful evergreen which flourishes in the neighbourhood of the Lakes of Killarney and the south-west coast, is not native to any other country in so high a latitude. The

broad-leaved myrtle grows luxuriantly in the southern counties; but peaches, grapes, and other similar fruits, do not ripen without much care and attention.

Ireland was formerly thickly covered with forests, but the greater part of these have been cut down, and wood is now comparatively scarce. The remains of ancient vegetation are found in the extensive bogs, in which whole trunks of trees are frequently discovered.

There are no serpents in Ireland: one species of lizard, with four of the order of frogs, newts, &c., constitute the only reptiles met with, and even some of these are probably of recent introduction.

II. POPULATION AND INDUSTRY.

POPULATION.—Ireland had in 1861 a population of 5,764,543, equal, on the average of the entire surface of the island, to 177 persons to the square mile. At the preceding census of 1851, the population was 6,552,385, equal to 201 persons for every square mile. Ten years previously, in 1841, the number of the population was 8,175,124, which was in the ratio of 251 persons for every square mile of surface.

The amount of the Irish population has therefore undergone a great change during the last twenty years, the decrease in its numbers within that period amounting to no less than 2,410,581, or nearly 30 per cent! So considerable a diminution is probably unexampled in modern experience within the civilised world. In 1841, the population of Ireland had reached its maximum as to number. In 1821, when the first complete census of the Irish population was taken, the numbers amounted to 6,801,827. The census of 1831 exhibited a population of 7,767,401.*

* The increase in the population of the island appears, indeed, to have been continuous from the earliest period at which we have any authentic data respecting its numbers; that is, from the latter part of the 17th century, at which time (1672) Sir William Petty estimated its numbers

The ratio of decrease in the numbers of the Irish population during the twenty years between 1841 and 1861 is shown in the following table:—

Provinces	Pop. in 1841	Pop. in 1851	Pop. in 1861	Decrease from 1841-51	Decrease from 1851-61
				Per cent.	Per cent.
LEINSTER . .	1,973,731	1,672,738	1,439,596	15 $\frac{1}{4}$	14
MUNSTER . .	2,396,161	1,857,736	1,503,200	22 $\frac{1}{2}$	19
ULSTER . .	2,386,373	2,011,880	1,910,408	15 $\frac{1}{2}$	5
CONNAUGHT .	1,418,859	1,010,031	911,339	29	9 $\frac{3}{4}$
Total of Ireland .	8,175,124	6,552,385	5,764,543	20	12

It appears from this table that the decrease in the number of inhabitants has been most considerable, during the earlier of the two periods (1841-51), in the province of Connaught, and least so in Leinster: during the latter period (1851-61) the decrease has been greatest in Munster, and least considerable in Ulster. During the period between 1841 and 1851, the only counties of Ireland which increased in number of inhabitants were Dublin and Antrim: in all the rest of the island, a decrease, more or less considerable, occurred.*

at about 1,100,000. From 1785 downward the ratio of increase became astonishingly rapid, and continued so during the succeeding half century. — See M'Culloch, *Brit. Emp.* vol. i. p. 436.

* Yet some of the larger towns increased in population during the same period. Thus, the total population of Antrim, in 1841, was 351,496, of which number the town of Belfast had 75,308 inhabitants. In 1851, the population of Belfast had increased to 100,301, while that of the whole county (Belfast inclusive) was 351,684. Belfast had increased its number of inhabitants in the ratio of 33 per cent., while the decrease which the rest of the county underwent, during the same period, was nearly 9 per cent. The total population of the county, Belfast included, was nearly the same, showing an increase of no more than 188 persons during the interval. Similarly, the city of Cork increased its population, between 1841 and 1851, in the ratio of 6 per cent.; but the whole county of Cork underwent a diminution amounting to nearly 24 per cent.: excluding the city of Cork, the decrease during the period, in the population of the county, was above 27 per cent. So, the county of Dublin (excluding the city of Dublin) underwent a decrease of nearly 5 per cent., though the total population of the county, including the city exhibited an increase.

During the later ten years, 1851-61, the only county which shows an increase in the total number of its population is Antrim. The increase in this case is entirely due to the growth of the towns of Belfast and Carrickfergus, the former of which has gained in population within the interval in the ratio of nearly 19 per cent., and the latter of above 10 per cent., while the rest of the county has decreased by one and a half per cent. The population of the city of Dublin, during the same period, has decreased upwards of 3 per cent., but the county of Dublin, including the suburbs of that city, exhibits an increase in the ratio of between 3 and 4 per cent.

The decrease in the numbers of the population, during the period between 1851 and 1861, is most apparent in the counties of Tipperary, Clare, Meath, Kilkenny, King's County, Wexford, Waterford, and Cork, with the towns of Kilkenny and Galway.

This remarkable diminution in the numbers of the Irish population within the last twenty years is mainly due to the continuous stream of emigration which has been directed from Ireland to other parts of the world, and in particular to the countries on the western side of the Atlantic — i.e. the United States and the British colonies in North America. The terrible suffering which attended the failure of the potato crop, and consequent famine of 1846-48, contributed largely to the decrease during the earlier decade (1841-51), and the effect of this dreadful calamity must have extended into the earlier portion of the ensuing period of ten years; but emigration to other lands is no doubt to be regarded as the main cause for the present population of Ireland numbering little more than two-thirds of its amount twenty years since.

Even now, however, Ireland is thickly populated, compared with most other countries, and astonishingly so, considering the large amount of waste and unemployed land — mountain and bog — which it includes. Its ratio of population, even at the present time (177 persons to the square mile), is greater than that of either France, Prussia, Bavaria, Hungary, Switzerland, Portugal, or Denmark, and double that of either Spain, Turkey, or Greece. It is, indeed, amongst European countries, only exceeded in populousness by England, the Netherlands, Belgium, Italy, and portions of Germany. The present density of population in Ireland exceeds in the ratio of three-fifths that in the case of Scotland, which has only 102 persons to the square mile, and is greater than that of Wales, which has 163 persons to the square mile.

The evidences of an original Celtic population are thickly strewn over Ireland, and its older topographical nomenclature is almost exclusively Celtic, as the native speech of the great majority of its inhabitants has down to a late period continued to be.

The great majority of the people still belong to the Celtic race, though in the parts most adjacent to England, and in the large towns, they have become partially mixed with the descendants of English colonists. The English language is now generally prevalent, and the native Celtic dialect is in gradual process of extinction, though still spoken by the peasantry in the southern and western parts of the island.

In the eastern part of Ulster the population is almost wholly of Scotch origin. The manners and national characteristics of the people of Lowland Scotland have hence been transplanted thither. Colonists from Scotland have at various times settled in Ireland, but the great colonisation of Ulster by the Scotch took place during the reign of James I., in 1612 and succeeding years.* The inhabitants of Ulster occupy a higher rank in the social scale than those of any other part of Ireland, and are generally a more frugal, industrious, and intelligent race.

INDUSTRIAL OCCUPATIONS: AGRICULTURE. — Ireland is chiefly a grazing country, and large numbers of cattle are reared, principally for export to England. Oxen are most extensively bred in the counties of Limerick, Tipperary, Roscommon, and Meath: the native cattle have been to a great extent superseded by the introduction of English breeds. Roscommon, Galway, Clare, Tipperary, and Limerick, are the chief counties for breeding sheep, but these are not so extensively reared as oxen: the native sheep is small and partially covered with hair, but it has been crossed with English breeds, and most of the Irish sheep are at present long-woolled and of large size. A breed of fine short-woolled sheep is peculiar to the mountains of Wicklow. Goats are very generally reared in the mountainous districts, and are kept chiefly for their milk. The hog, however, is the animal most universally found, and almost throughout the country shares the habitations of the peasantry, feeding chiefly on potatoes. Dairy-farms are numerous, and butter is made and exported in large quantities.

Oats take, at the present time, the most important place in Irish

* Hume: chaps. xlvi. and lv. "The whole province of Ulster having fallen into the crown by the attainder of rebels, a company was established in London for planting new colonies in that fertile country: the property was divided into moderate shares, the largest not exceeding 2,000 acres: tenants were brought over from England and Scotland: the Irish were removed from the hills and fastnesses, and settled in the open country: husbandry and the arts were taught them: a fixed habitation secured: and, by these means, Ulster, from being the most wild and disorderly province of all Ireland, soon became the best cultivated and most civilised."

husbandry, and constitute the largest tilled crop. Potatoes, until within a recent period by much the most considerable crop, now take only the second place. The humidity of the climate renders it less fitted for wheat and barley, both of which, however, are raised, and the cultivation of the former has extended of late years. The greater part of the grain raised in Ireland is not consumed in that country, but exported to England. Turnips are cultivated in many districts, and have of late become a very general crop. Mangold-wurzel, carrots, parsnips, vetches, and other green crops, enter largely into the agricultural produce of Ireland. The quantity of meadow land required for grazing purposes is very considerable.

FISHERIES. — The seas around Ireland swarm with fish, and the inlets on its shores are the resort of vast shoals of the cod, herring, ling, hake, mackarel, and many others. There are extensive oyster-beds on the coast of Clare, and also in Loughs Swilly and Carlingford. But this branch of industry is very imperfectly developed, and the Irish fisheries are not in a flourishing condition. Indeed their produce is quite inconsiderable compared with the abundant opportunities afforded by nature, and salt fish are even imported from Scotland. Fresh-water fish abound in the rivers: there are valuable salmon-fisheries in the Bann, the Foyle, the Erne, the Boyne, and other streams, some of the produce of which is sent to the markets of Liverpool, Bristol, and London.

MANUFACTURES. — Ireland is not distinguished as a manufacturing country. The principal manufacture is that of *linen*, chiefly carried on in the province of Ulster, though latterly extended into Connaught and Munster. Belfast and Armagh, with their immediate neighbourhood, constitute its principal seat. Lace of the finest description is made in Dublin and other localities.

The *woollen* manufacture, chiefly confined to the coarser kind of goods, is carried on in various parts of Leinster, at Dublin, Kilkenny, Wicklow, and elsewhere. The manufacture of broad-cloths has been introduced at Dublin, and that of fine stuffs at Bandon: a coarse kind of frieze is made by the farming population in most parts of the country during the intervals of agricultural labour.

The manufacture of *cotton* goods is prosecuted to a considerable extent at Belfast and its vicinity, and also in some parts of the south of Ireland, at Tullamore (King's County), and elsewhere. The manufacture of tabinet, or Irish poplin, a mixed fabric of silk and wool, is almost peculiar to Dublin. Some manufacture of muslin and cambric is carried on at Dundalk.

The distillation of whisky from malt is largely carried on, though not by any means to so great an extent as formerly, owing to the spread of more temperate habits among the population at large.

Beer is largely made in Dublin, and exported both to Great Britain and to foreign countries. Other manufactures pursued to a less extent are those of muslin, leather, glass, and vitriol.

COMMERCE.—The foreign trade of Ireland is inconsiderable compared with that carried on across the Channel, with Great Britain. The *imports* from abroad consist chiefly of tea, coffee, tobacco, sugar, wine, timber, tallow, flax, hemp, and wool; with, of late years, maize or Indian corn, chiefly from the United States. Coal is largely imported from England and Scotland, and also cotton, woollen, and hardware goods, with other British manufactures.

The *exports* are chiefly to Great Britain, and consist principally of agricultural produce (including vast numbers of live cattle and pigs), with salt beef and pork, eggs, &c.; and also linen manufactures.

Dublin is the principal seat of the foreign import trade, and next in order are Belfast, Cork, and Waterford; but the export trade both of Belfast and Cork is more considerable than that of Dublin. Waterford is a great seat of the cross-channel trade to England, and exports immense quantities of live stock and agricultural produce—consigned chiefly to Bristol. Both Drogheda and Dundalk have considerable export trade of butter and other farm produce.

INTERNAL COMMUNICATION.—The roads in Ireland are generally well laid out, and kept in good repair, unless in the remoter and more mountainous parts of the country.

Two principal *canals* (the Grand Canal and the Royal Canal) connect Dublin with the Shannon, crossing the great plain which occupies the interior of the country—with branches to many of the principal towns adjacent to their course. These are chiefly used for the conveyance of agricultural produce to the Irish metropolis. There are also some other canals and artificial navigations, but this mode of communication is not, on the whole, so extensively used as might be expected. The Shannon is extensively traversed by steamboats, both for passengers and goods.

Railways have made considerable progress in Ireland within recent years. There are at the present time about 1,400 miles of railway open for traffic, by means of which the Irish metropolis is placed in rapid communication with all the more populous parts of the island. The first opened line was that between Dublin and Kingstown, a distance of five miles, completed in 1834.

Communication between Ireland and the metropolis of the empire has for some years past been effected with unexampled speed. The voyage between Dublin and Holyhead (the nearest port on the British coast) is performed by swift steam-packets in less than four hours. From Holyhead to London the journey by railway is performed in less than seven hours; so that, by the aid of steam, communication

is effected between the Irish metropolis and the capital of the British empire (a distance of upwards of 330 miles, 70 of which are water) in the almost incredibly short space of little more than ten hours and a half.

III. TOPOGRAPHY.

DIVISIONS.—The thirty-two counties into which Ireland is divided are of very unequal dimensions. Cork, the largest, has an area of 2,885 square miles, and Galway, the next in size, of 2,447 square miles. Louth, the smallest amongst them, is only 315 square miles in area, and Dublin only 354 square miles. The counties on the eastern side of the island are generally smaller than those to the westward. The provinces of Leinster, Ulster, Connaught, and Munster, now only recognised as geographical divisions, formerly gave their names to separate kingdoms, as also did Meath, which was long a distinct kingdom.

The division of Ireland into shires or counties, under their respective sheriffs and other officers, after the manner of England, was commenced under King John, in 1210. Twelve counties were erected by that monarch in Leinster and Munster—viz.: Dublin, Kildare, Meath,* Uriel (or Louth),† Catherlow (or Carlow), Kilkenny, Wexford, Waterford, Cork, Limerick, Kerry, and Tipperary. The present county of Wicklow was originally included within Dublin: Wicklow was not formed into a distinct county until the reign of James I. (1605).

Other counties were formed at various subsequent periods, as further portions of the island were subdued to English rule. Queen's and King's Counties—previously known as Glenmalery, Eastern and Western—were first erected, out of districts which had been the seat of a recent rebellion, during the reign of Mary (1557), the names

* Meath originally included the present Westmeath, together with the whole or part of Longford, Cavan, and King's County. Westmeath became detached from the rest of Meath in the early part of the 13th century, and remained independent of English rule during the ensuing hundred years. Westmeath was first erected into a county under Henry VIII. Longford, at first included within Westmeath, was made a distinct county under Elizabeth: Cavan, which was taken in part out of Meath, was constituted a distinct county during the same reign.

† Louth, however, was regarded as part of Ulster down to the reign of Elizabeth.

being given with reference to that sovereign and her husband, King Philip II. of Spain. Many portions of the island were first made shire-ground during the reign of Elizabeth, some not until the time of her successor James I. Monaghan was first constituted a county in 1584; Cavan about 1590. The greater part of Connaught became divided into counties during the reign of Elizabeth. Roscommon had been made subject to the English during the later half of the 13th century: but Leitrim, which had previously been regarded as part of Roscommon, was first made shire-ground under Elizabeth. Galway became so during the same reign (1585). Clare was erected into a county in 1565.

Ulster was later than any other portion of the island in becoming assimilated to the divisions established in virtue of English rule. Down, the south-eastwardly portion of Ulster, had been early overrun by the English (in 1177), and was originally divided into two distinct shires—Down and Newtown, or the Ards: but the greater portion was subsequently regained from the English by the native Irish chieftains, and from the early part of the 14th until the settlement of Ulster in the 17th century, it was for the most part beyond the English pale. Sheriffs were first appointed in Tyrone and Donegal in 1603.

Thirty of the counties are subdivided into baronies, very unequal in extent: the counties of Tipperary and Cork are each divided into two ridings. The parishes form both civil and ecclesiastical divisions, but their limits do not always coincide with those of the counties and baronies.

The ecclesiastical division is into two archiepiscopal provinces, those of Armagh and Dublin, and ten bishoprics—five in each province. The principal ecclesiastical cities in Ireland are Armagh and Dublin, each of which is the seat of an archbishop's see: Cashel and Tuam, which were formerly archiepiscopal cities, have since 1833 been reduced to the rank of subordinate dioceses. Many of the places which were formerly the seats of episcopal sees are now unimportant villages, and in most cases several of them have been merged together and formed into a united diocese.

The present dioceses are as follow:—In the province of Armagh,—*Armagh and Clogher* (united); *Meath, Derry, and Raphoe* (united); *Down, Connor, and Dromore* (united); *Kilmore, Ardagh, and Elphin* (united); *Tuam, Killala, and Achonry* (united).

In the province of Dublin,—*Dublin, Glandagh, and Kildare* (united); *Ossory, Leighlin, and Ferns* (united); *Cashel, Emly, Waterford, and Lismore* (united); *Cloyne, Cork, and Ross* (united); *Killaloe, Kilfenora, Clonfert, and Kilmacduagh* (united); and *Limerick, Ardfer, and Aghadoe* (united).

Almost every part of Ireland abounds in remains of churches, and other ecclesiastical edifices — memorials of the primitive ages of Christianity in this island, and monuments of its early civilisation. There are, besides, numerous round towers, which are tall, circular buildings, of taper dimensions, some of them upwards of 100 feet in height, and probably the remains of pagan antiquity. The greater number of them are in ruins, though a few are still nearly perfect in external shape: altogether, the sites of 118 of these buildings have been discovered, of the great majority of which, however, only the foundations now remain. There are also, in various parts of the country, cromlechs, circles of stones, barrows, cairns, sacred hills, and other remains of early antiquity, most of them indicative of the forms of primeval worship which prevailed among its inhabitants.

Compared with the general density of its population, Ireland contains few large towns. Dublin, Cork, Belfast, and Limerick, are the only towns which have more than 50,000 inhabitants, and the only additional places of which the population exceeds 20,000 are Galway, Waterford, and Londonderry. The greater number of the towns have only from three to four or five thousand inhabitants; the population is chiefly rural, and distributed in villages and small farm holdings throughout the country.

The respective areas of the counties of Ireland, their populations in 1861, and the proportion of inhabitants to a square mile, are given in the following table: —

	Area in sq. m.	Pop. in 1861	No. of inhab. to sq. m.
LEINSTER: —			
Carlow	346	57,232	165
Dublin	354	402,022	1,135
Kildare	654	84,930	130
Kilkenny	796	123,557	155
King's County	772	88,491	114
Longford	421	71,592	170
Louth	315	75,140	238
Meath	906	110,609	122
Queen's County	664	90,750	136
Westmeath	709	90,856	128
Wexford	901	143,594	159
Wicklow	781	86,093	110

	Area in sq. m.	Pop. in 1861	No. of Inhab. to sq. m.
CONNAUGHT:—			
Galway	2,447	271,042	110
Leitrim	613	104,615	170
Mayo	2,131	254,449	119
Rosecommon	950	156,154	164
Sligo	721	125,079	173
ULSTER:—			
Antrim	1,190	376,054	316
Armagh	513	189,382	369
Cavan	746	153,972	206
Donegal	1,865	236,859	127
Down	957	299,866	313
Fermanagh	714	105,372	147
Londonderry	810	184,137	227
Monaghan	500	126,340	252
Tyrone	1,260	238,426	189
MUNSTER:—			
Clare	1,294	166,275	128
Cork	2,885	537,496	186
Kerry	1,853	201,988	109
Limerick	1,064	215,609	202
Tipperary	1,659	247,496	149
Waterford	721	134,336	186

The total areas and populations of the several provinces are:—

	Area in sq. m.	Pop. in 1861	No. of Inhab. to sq. m.
LEINSTER	7,619	1,439,596	189
CONNAUGHT	6,863	911,339	133
ULSTER	8,555	1,910,408	223
MUNSTER	9,476	1,503,200	158

LEINSTER.

1. DUBLIN, a maritime county, has an area of 226,414 acres, or 354 square miles. Its coast-line includes the extensive bay of Dublin. On the north side of Dublin Bay is the promontory of Howth, the highest point of which reaches 565 feet above the sea. This promontory, or "Hill of Howth," as it is commonly termed, is a peninsula, connected with the mainland by a low and narrow neck. An islet called Ireland's Eye lies to the northward of Howth, and about three-quarters of a mile distant from the coast. A few miles farther north is Lambay Island, which is of larger size, and above 400 feet in elevation. Dalkey Island adjoins the land, near the southern entrance of Dublin Bay.

The upper part of Dublin Bay exhibits, at low water, two extensive sand-banks, between which the waters of the Liffey river reach the sea, through a channel which is bounded to the southward by a pier and sea-wall, above three miles in length. A less extensive wall limits the harbour to the northward. By these means, with the aid of dredging, the navigation of the Liffey is preserved open for sea-borne vessels of moderate tonnage up to the quays of Dublin. The entire navigation of Dublin Bay, however, is exposed and insecure. An artificial harbour, constructed within the present century, at Kingstown, upon the southern side of the bay, affords the only secure shelter to vessels.

The greater part of the county is either level or moderately undulated. But at a distance of two or three miles southward of the city of Dublin, the ground rises gradually towards the group of the Wicklow Mountains. One of the higher summits of this region, Kippure, 2,473 feet, is on the border of Dublin and Wicklow. Several of the adjoining eminences within the county of Dublin approach, and one or two exceed, 1,000 feet in height—amongst them Tullaght Hill, 1,306 feet, and Slieve Thoul, 1,308 feet.

The only considerable river of Dublin is the Liffey, which has its source amongst the Wicklow Mountains. The Dodder and the Tolka, both small streams, enter Dublin Bay—the former to the south, the latter to the northward, of the mouth of the Liffey. The Dodder derives its waters from the skirts of Kippure, and flows through the picturesque valley of Glenismole. The Tolka rises within the county of Meath. The Royal Canal, and the Grand Canal, the two most important lines of inland navigation belonging to Ireland, both have their commencement in Dublin.

The greater part of the county belongs, *geologically*, to the carboniferous, or mountain limestone series. The middle limestones of this series, generally of black or dark grey colour, and composed of

impure argillaceous limestone, alternating with black shale containing rounded pieces of grey ironstone, are known as *calp*. The rocks in the neighbourhood of Dublin, and those that extend over great part of Meath, belong to the *calp* or black shale series. The waters derived from these rocks are generally impregnated with sulphate or nitrate of lime, and are hence unfit for domestic uses. The limestone strata pass to the southward into clay-slate (Silurian), and, in the south-east, into the granite of the Wicklow Mountains. The area occupied by granite includes a considerable part of the county in this direction, comprehending the southern shore of Dublin Bay, in the neighbourhood of Kingstown. The granite is quarried extensively at Dalkey and other places to the southward of Kingstown. Towards the line of junction with the clay-slate and granite, the strata of mountain limestone become of compacter texture than elsewhere, and are quarried for building purposes.

The city of Dublin has some considerable manufactures, but the greater part of the county is agricultural, a large area of ground in the neighbourhood of the capital being appropriated to market-gardening and the purposes of dairy-farming.

The county of Dublin is divided into 9 baronies. It includes, of places which have upwards of 2,000 inhabitants, the following:—

	Pop.		Pop.		Pop.
DUBLIN	295,964	BLACKROCK	2,916	SKERRIES	2,256
KINGSTOWN.	11,854	BRAY	4,273	BALBRIGGAN	2,308

The city of Dublin, and the University of Dublin, each return two members to the imperial parliament. The county of Dublin also returns two members.

Dublin, the capital of Ireland, is situated on either side of the Liffey, immediately above its mouth, and is distinguished by the number and magnificence of its public buildings, and its many fine private residences. It has two Protestant cathedral churches—Christ Church (the more ancient), and St. Patrick's, distinguished for its numerous monuments. Besides many other churches belonging to the established religion, there are many Roman Catholic places of worship, some of which are of large dimensions and great architectural beauty.

Dublin is the seat of a Protestant University, styled Trinity College, founded in the time of Queen Elizabeth. There are, besides, academies and other institutions for the encouragement of science, literature, and the fine arts. Dublin is not distinguished as a manufacturing city, but the amount of trade—both foreign and coasting—is very considerable, and the export trade is increasing. The village of Clontarf, upon the north side of Dublin Bay, is

celebrated in Irish history for a great victory gained over the Danes, in 1014.

Kingstown (formerly Dunleary), on the south side of Dublin Bay, 6 miles to the eastward, forms the port of Dublin, and is the principal resort of its shipping.

Balbriggan, on the coast, 18 miles north of Dublin, is a small trading and fishing town, and is distinguished for its manufacture of hosiery.

2. MEATH, a maritime county, to the north of Dublin, has an area of 579,809 acres, or 906 square miles. Its coast-line is limited to an extent of little more than six miles, from the mouth of the river Boyne southward. The Boyne also forms part of the county border at its opposite or south-western extremity, afterwards traversing the county throughout its extent, in the direction of S.W. and N.E.

No part of Meath has any considerable elevation. The highest eminence is Slieve Nacallagh, 904 feet, in the north-west portion of the county. Some hills of less elevation lie to the north of the Boyne, towards Louth. But the greater part of Meath belongs to the central plain of Ireland, and exhibits only gentle undulations of surface.

The principal river is the Boyne, which has nearly its entire course within the county, and carries off the greater part of its running waters. The Boyne has been made navigable by artificial means up to Navan, 23 miles above its mouth. The Boyne is joined, within Meath, by the Deel, the Stoneyford river, and the Blackwater, upon its left bank, and by another (and smaller) Blackwater upon its right bank—together with numerous less important streams. The river Dee waters a part of the county, in the north, and afterwards enters Louth. The Nanny enters the Irish Sea, to the south of the Boyne. Lough Sheelin, 5 miles in length and between 2 and 3 miles broad, is at the north-western extremity of Meath, and partly within the counties of Westmeath and Cavan.

Meath is chiefly within the carboniferous limestone area. The greater part of the county belongs to the middle or calp (black shale) division of the limestone series, beneath the beds of which the lower series of limestones crop out, in the south-western division of the county. To the north of the Boyne, and also within a tract lying south of that river, in the neighbourhood of the coast, clay-slate or greywacke (of the lower Silurian period) appears. Limestone and marl are the chief mineral products of the county.

Meath is altogether an agricultural county. Its grazing land is amongst the best in Ireland, and grazing is more extensively pursued than arable husbandry. By far the larger portion of the surface is in pasture, and great numbers of live stock are reared.

The county of Meath (which returns two members to the imperial parliament) is divided into 18 baronies. Its principal towns are:—

	Pop.		Pop.		Pop.
TRIM . . .	2,057	NAVAN . .	3,855	KELLS . . .	3,225

Trim, the county-town of Meath, stands on the left bank of the Boyne. It possesses little importance beyond that derived from its market for agricultural produce and its assize business. *Navan*, which is also of merely local importance, stands at the junction of the Blackwater with the Boyne, 8 miles to the N.E. of Trim, and 27 miles N.W. of Dublin. *Kells*, between 8 and 9 miles N.W. of Navan, is near the right bank of the Blackwater. Kells is a place of great antiquity, the seat of a monastery founded in the 6th century, by St. Columba, and afterwards the see of a bishop.

The hill of Tara, eight miles to the eastward of Trim, and about a mile west of the Dublin and Navan coach-road, fills a conspicuous place in the early history of Ireland. It was there that, up to the close of the 6th century, the kings and clergy of Ireland, with its bards, were accustomed to assemble for purposes of general council on public affairs. In later times, the hill of Tara has served as a frequent place of rendezvous for warlike gatherings.

3. **LOUTH**, a maritime county, and the smallest in Ireland, has an area of 201,906 acres, or 315 square miles. Its coast-line includes the bold promontory of Clogher Head, and, farther to the north, Dunany Point, which is low. Dundalk Bay belongs to Louth. Carlingford Lough, to the eastward, lies between Louth and the county of Down. For the distance of a few miles below Drogheda, the river Boyne marks the southern border of the county.

The surface of Louth is chiefly level, or gently undulated, excepting in the extreme north-east of the county, within the peninsular tract enclosed between Dundalk Bay and the lough of Carlingford. A group of elevated mountains fills the interior of this peninsula. Mount Carlingford, which immediately overlooks the lough of that name upon its western side, reaches 1,935 feet in height, and one or two adjacent points within the portion of Louth are nearly as elevated. Some moderately high ground occurs in the extreme south of the county, on the left side of the Boyne valley.

Besides the Boyne, the chief rivers of Louth—all small—are the Dee, the Glyde, the Fane, and the Castletown (or Dundalk river), all of which enter Dundalk Bay.

The chief *geological* feature of Louth is clay-slate (Silurian). This includes nearly the whole county, with the exception of the

mountain-region contained within the peninsular tract lying to the north-eastward of Dundalk Bay. Carboniferous limestones (of the lower series) overlie the clay-slate along part of the western border of the county, and occupy the space between the mountains and the sea, along the shore of Lough Carlingford and the adjacent coast of Dundalk Bay. The mountains contained within this peninsular region exhibit a centre of granite, flanked by trap—chiefly green-stone, with mica and clay-slate.

The industry of Louth is chiefly agricultural. A large proportion of the land is under the plough: good crops of wheat and other grains are raised, and a considerable amount of agricultural produce is exported. The fisheries are pursued along the coast. The linen manufacture gives employment in Drogheda and other towns.

Louth is divided into 6 baronies. It includes the following towns:—

	Pop.		Pop.		Pop.		
DUNDALK .	10,075	|	DROGHEDA	14,730	|	ARDEE .	2,572

Dundalk and Drogheda each return one member to the imperial parliament. The county of Louth returns two members.

Dundalk is the county-town of Louth. It stands at the head of an arm of the bay to which its name is given, and near the mouth of the Castletown river. Dundalk has been connected with numerous events in Irish history, and was for a time the residence of Edward Bruce. The town of *Louth*, now decayed, which gave its name to the county, is 6 miles S.W. of Dundalk. *Ardee*, on the south bank of the river Dee, occupies a place in Irish story from its position, during the earlier period of English dominion in the island, on the fluctuating limit of the English pale.

Drogheda (or *Tredagh*, as the name generally appears in Irish story) is situated on the Boyne, about three miles above the sea. The town is divided into two parts by the river—the portion lying on the S. side of the Boyne being locally within Meath. But Drogheda, besides being a parliamentary borough, forms a county of itself, and has possessed that privilege ever since the time of Henry IV. Besides some share in the linen, cotton, and other manufactures, Drogheda has considerable shipping trade, chiefly with Liverpool.

Drogheda fills a conspicuous place in Irish history. Its successful defence on the breaking out of the Irish rebellion in 1641, and, eight years later (when held by a royalist force), its assault and capture by Cromwell, are among the most important of many noteworthy events that belong to its records. The battle of the Boyne, between the armies of James II. and William III., in 1690, was fought about

two miles above the town, which surrendered to King William the day after the engagement.

4. WESTMEATH, an inland county, has an area of 453,468 acres, or 709 square miles. It extends westward from Meath (of which it originally formed a portion) to the Shannon, that river marking its western border.

Westmeath forms part of the central plain of Ireland. Its surface, however, is diversified nearly throughout by gentle undulations, which assume in some places the character of hills. Knocklaid, to the southward of Lough Sheelin, near the northern extremity of the county, is 795 feet high, and appears to exceed in altitude any other point within Westmeath. Some of the hills that lie around Lough Deravaragh are upwards of 500 feet high. Ben Fore, near the northern side of Lough Lane, rises to 710 feet. Large portions of the county, however, especially towards the east and south, are nearly level, and a considerable area of the surface consists of bog.

The greater part of the county belongs to the basin of the Shannon, which flows for about eight miles along its western border, after its issue from Lough Ree. The rivers Inny and Brosna, both of which join the Shannon, have portions of their courses within Westmeath. Each of these streams is connected with several inland lakes, some of them of considerable size. Lough Sheelin (at the northern extremity of the county), Lough Kinale, Lough Deravaragh, and Lough Iron, all belong to the channel of the Inny, and are united by its waters: Lough Owel and Lough Ennel belong to the course of the Brosna river. There are, besides, several smaller lakes within the western division of the county, some of them which communicate with Lough Ree, while others have no visible outlet.

The eastern parts of Westmeath fall within the basin of the river Boyne. The river Deel, which joins the Boyne, has the chief part of its course within the county: Lough Lane, from which the Deel issues, is also in Westmeath. The Stonyford river, and other small affluents of the Boyne, are in part within the county.

In point of *geological structure*, the greater part of Westmeath belongs to the great carboniferous formation of Ireland, and principally to the lower series, composed of ordinary grey or reddish limestones. A considerable area in the north-east of the county, however (east of a line connecting Loughs Ennel and Iron), is composed of the black shale or calp beds, belonging to the middle group of the limestone series. Yellow sandstone, which in Ireland forms the lowest member of the carboniferous series, appears in two or three localities of limited area within the county.

Westmeath is chiefly a grazing county, its industry being almost wholly devoted to dairy-farming and pasturage. Oats are the grain principally grown: potatoes, turnips, mangel-wurzel, vetches, and other green crops, enter largely into the husbandry of the county. A large area of the land is in meadow. Great numbers of pigs are reared; also of black cattle, considered among the best in Ireland.

Westmeath is divided into 12 baronies. It includes the following towns:—

	Pop.		Pop.		Pop.
MULLINGAR	5,359	ATHLONE .	5,601	MOATE .	1,958

Athlone is a parliamentary borough, returning one member. Two members are returned by the county of Westmeath.

Mullingar, the county-town of Westmeath, stands beside the winding channel of the Brosna river, midway between the loughs of Owel and Ennel, and upon the line of the Royal Canal, as well as on that of the Great Western Railway of Ireland. It forms, indeed, an important centre of railway traffic, a line which branches off to the northward connecting it with Longford, and also with Cavan and other places in that direction. Mullingar is a considerable market for agricultural produce, and has extensive cattle-fairs.

Athlone, on the Shannon, is partly within the county of Roscommon, but the larger portion of the town lies on the eastern or Leinster side of the river. Athlone is between two and three miles below the outlet of the Shannon from Lough Ree. The bridge by which the Shannon is here crossed (the only one within a distance of above 30 miles, and the earliest predecessor of which dates as far back as the time of King John, though the present structure is of recent date) secures to Athlone the importance derived from its place on a great line of traffic. Its castle, a strong military position, is on the western bank of the river, and within Connaught. The gallant and successful assault of Athlone by the army of William III. under General Ginkell, in 1691, in the presence of the army of King James, encamped in the immediate vicinity, forms a stirring passage in the history of that period.* *Moate* is 10 miles E. by S. of Athlone.

5. LONGFORD, an inland county, has an area of 269,409 acres, or 421 square miles. The river Shannon, and the shores of Lough Ree, mark throughout its western border: thence the county stretches east and south-east to the border of Westmeath, and in the direction

* See Macaulay: *Hist. of Eng.*, chap. xvii. Eleven days afterwards, the battle of Aughrim was fought.

of north and north-east towards Leitrim and Cavan. It thus borders upon the provinces of both Connaught and Ulster.

The north-western part of Longford is moderately elevated, the range of the Clanhugh hills crossing that division of the county, between Lough Gowna and the valley of the Shannon: the highest of them, Carn Clanhugh, is 912 feet high. The rest of the county has a merely undulating surface, which becomes flatter towards the shores of Lough Ree.

The Shannon is by far the most considerable river of Longford. Shortly after touching the county, it spreads into the expanse of Lough Forbes (about a mile and a half in width), and ten miles lower down opens out into the much larger area of Lough Ree, within which are numerous islands. Some of these islands belong to Longford, but the greater number are within Westmeath. The rivers Camlin and Inny are the two most considerable affluents of the Shannon within Longford, and the first-named of them belongs wholly to this county. The Camlin joins the Shannon a short distance below Lough Forbes. The Inny enters an extensive bay on the eastern side of Lough Ree. There are several small lakes within the county. Lough Gowna, which lies upon (and partly within) its north-eastern border, belongs to the basin of the river Erne, and has a northwardly outflow.

Geology.—The greater part of Longford is within the carboniferous limestone area: its strata belong chiefly to the grey or lower series, but some portion towards the eastern border of the county belong to the middle or calp series. The northwardly division of the county is occupied by greywacke or clay-slate (Silurian), the beds of which are continuous with the extensive area covered by that formation in the adjoining county of Cavan. A narrow belt of country (lying northward by the town of Longford, and dividing the clay-slate and the limestone strata) exhibits beds of yellow sandstone and conglomerate. Ironstone, associated with coal, shale, and sometimes with lead-ore, is found within the county, but is not worked.

Grazing and dairy-farming are the characteristic occupations of Longford. The land within the northern division of the county is almost entirely in pasture. In the middle and southern portions of the county, there is more of tillage, oats being the principal crop. Live stock are very numerously reared.

Longford is divided into 6 baronies. The county returns two members to the imperial parliament. The only town within its limits with more than two thousand inhabitants is LONGFORD (pop. 4,535), which is the county-town.

The town of *Longford* stands on the left bank of the Camlin river, and about five miles distant from the Shannon. Its chief

importance is derived from its market for agricultural produce. *Edgeworthstown*, between eight and nine miles to the south-eastward of Longford, derives its name and the interest attaching to it from the residence there of the Edgeworth family. *Granard* (pop. 1,665), a small market-town, is situated towards the eastern border of the county. *Ballymahon*, on the Inny, is near its southern limit.

6. KING'S COUNTY, an inland district, has an area of 493,985 acres, or 772 square miles. The river Shannon forms part of its western border. Thence the county stretches eastward, over more than half the breadth of Leinster, to the borders of Meath and Kildare. The range of the Slieve Bloom, and the course of the river Barrow, mark portions of the border on the side of Queen's County. The Boyne forms for a short distance the border between King's County and Meath. The Little Brosna river in part divides King's County from Tipperary, in the adjoining province of Munster.

The highest elevations of King's County are upon part of its south-eastern border, where the chain of the Slieve Bloom extends for twelve or thirteen miles along the border of King's and Queen's Counties, afterwards passing into the latter. Ard Erin, the highest summit of the range, 1,733 feet in height, lies upon the border-line, as also does Slieve Bloom, 1,691 feet, immediately to the northward of the former. From the western face of the Slieve Bloom chain, the country descends by a gradual slope towards the valley of the Shannon. A range of moderately high ground stretches southward from the Slieve Bloom range, and connects it with the Devil's Bit Mountains of Tipperary.

The most conspicuous elevation in the eastern division of King's County is the rounded summit of Croghan, about 3 miles N. of Philipstown, and 769 feet above the sea. This eminence, rising by itself to upwards of five hundred feet above the adjacent plain, forms a striking feature in the landscape, and commands a wide prospect from its summit. Elsewhere, the surface of King's County is mostly undulating, like that of the central plain of the island in general, to which indeed it belongs. The area of bog within its limits is very considerable. A margin of arable land is generally found along the rivers, but the intervening tracts consist for the most part of bog. The most extensive bogs are within the western half of the county, between the valley of the Brosna river and the lower slopes of the Slieve Bloom on the one hand, and towards the border of Westmeath on the other. The immediate banks of the Brosna consist of fertile arable land, among the most productive in the county. The Bog of Allen extends over part of the eastern division of the county, to the northward of the Barrow.

Next to the Shannon, the principal rivers of King's County are the Brosna and the Little Brosna rivers, both of which join the Shannon, and, with their affluents, drain above two-thirds of the county. The Brosna enters the county from Westmeath, and receives within King's County the Croadagh and the Broughill rivers, both of them upon its left bank. Shannon Harbour, where the Brosna enters the Shannon, is also the point at which the Grand Canal is connected with that river. The Little Brosna joins the Shannon between seven and eight miles lower down.

The eastern portion of King's County is principally within the basin of the river Barrow. A small part of it, however, belongs to the Boyne basin. The Little Barrow, with its affluents, the Cushina and Philipstown rivers, water that part of it which has a southwardly or south-eastwardly slope, towards the Barrow. The remaining (and smaller) portion, which has a north-eastwardly slope, is chiefly watered by the Yellow river, which joins the Boyne upon the northern border of the county. There are no lakes of any considerable size within the county.

Nearly the whole of King's County belongs, *geologically*, to the great limestone plain of central Ireland. The strata consist in general of the ordinary grey or reddish black limestones which form the lower members of the limestone group. The hill of Croghan, in the eastern part of the county, and the Slieve Bloom region, in the south, present exceptions to the prevailing stratification. Croghan Hill consists of trap — principally greenstone, against which the limestone of the adjacent plain is tilted up, and caused to exhibit in many respects an altered structure, assuming a calcareous formation which approaches the character of oolite. The decomposed strata of this tract form a highly fertile soil. The Slieve Bloom range is composed of reddish or grey sandstone (of the "old red" or Devonian period), with clay-slate rising above the surrounding strata, and forming the highest points of the mountain tract. The clay-slate of this region yields excellent flag-stones.

King's County is chiefly a grazing district. Within the tracts that are under the plough the usual crops are raised, oats being the most considerable. The valley of the Brosna, with the margins of the Shannon and the tract which includes Croghan Hill, are the most fertile portions of the county.

King's County is divided into 12 baronies. It returns two members to the imperial parliament. The only places within it that have more than 2,000 inhabitants are:—

	Pop.		Pop.
TULLAMORE . . .	4,791	PARSONSTOWN, or BIRR .	5,220

Tullamore, the capital of King's County, stands beside a small affluent of the Cladagh, and on the course of the Grand Canal, as well as upon a connecting line between two of the great lines of railway communication in Ireland—those that cross the island, from Dublin, to the west and south-west. It is within the extensive district known as the Bog of Allen, portions of which, however, are fertile and highly productive tracts. *Philipstown*, which until the last thirty years was the county-town, lies also on the Grand Canal, 8 miles E. by N. of Tullamore.*

Parsonstown, or *Birr*, in the south-western part of the county, is on the Little Brosna river, at the point where it is joined by the stream of the *Birr*. *Birr Castle*, the residence of the Earl of Rosse (from whose ancestor, in the early part of the 17th century, the name of *Parsonstown*, now the more generally used appellation, is derived), is close beside the town. *Banagher*, on the left bank of the Shannon (7 miles N.W. of *Parsonstown*), derives some importance from its position on one of the lines of road which crosses the river, the bridge over which is commanded by fortified batteries on either side. At *Shannon Bridge*, eight miles higher up the stream, there are also fortifications, upon the western or *Connaught* side of the river.

The ruins known as the Seven Churches of *Clonmacnoise*, among the most interesting of the many ecclesiastical remains that belong to Ireland, are situated in the north-western part of King's County, upon a gentle eminence which adjoins the left bank of the Shannon. The most important of the ruins belong to the ancient abbey of *Clonmacnoise*, founded in the middle of the 6th century, and afterwards raised to the rank of a cathedral church. There are here numerous traces of ancient burial-places, with monumental crosses and other remains, some of them richly sculptured.

7. **QUEEN'S COUNTY**, an inland tract, to the southward of King's County, has an area of 424,854 acres, or 664 square miles. It lies between the *Slieve Bloom Mountains* on the west, and the course of the river *Barrow* upon the east. An irregular line divides it, to the southward, from the county of *Kilkenny*.

A considerable portion of *Queen's County* is hilly. The more northwardly part of the *Slieve Bloom* range is entirely within its limits, and the remainder of the range lies along the border-line be-

* The name of this town—formerly *Dangan*—was changed to *Philipstown* in honour of Philip II., the husband of *Queen Mary*, in whose reign the county was first laid out.

tween Queen's and King's County. The highest elevations of the Slieve Bloom within Queen's County—the Cones, and the Ridge of Cappard—are respectively 1,676 and 1,577 feet above the sea. The hill distinguished as Slieve Bloom (1,691 feet) adjoins the first-named of these eminences to the southward, and is on the western border of the county. From the base of the Slieve Bloom, the ground slopes south and south-east towards the valley of the river Nore.

The more eastwardly division of the county is occupied by rising grounds which lie in the direction of north and south, separating the valley of the river Barrow from that of its tributary the Nore. These are sometimes known as the Dysart Hills, and one portion of them is distinguished on the maps by the name of Slieve Loogh. The highest of these elevations exceeds 1,000 feet above the sea: Scotland Hill, 9 miles S.E. of Maryborough, is 1,079 feet, and Cullenagh (nearer Maryborough) 1,045 feet. Between the Slieve Bloom and these eastwardly heights, the surface of the county is in general moderately elevated, a large portion of it consisting of bog.

The whole of Queen's County, with the exception of a small portion in the north-west, falls within the basin of the river Barrow, which rises within the county, and, after an eastwardly course of some miles, turns to the southward and flows along its eastern border. The Owenass and the Triogue rivers are among the smaller affluents of the Barrow, in the upper portion of its course. The Nore, the most considerable affluent of the Barrow, waters the western portion of the county, and receives several small tributaries within its limits: the chief of them is the Erkin, which joins the Nore on its right bank, below Durrow. The Clodagh, which joins the Brosna, and belongs to the basin of the Shannon, rises within the north-western extremity of the county. The small lough of Annagh, from which one of the feeders of the Broughill river issues, is on the border of King's and Queen's Counties.

The predominant feature in the *geology* of Queen's County is carboniferous limestone, of which the central plain of the island is everywhere composed. All three members of the limestone group—the upper (or bluish-grey) strata, the calp or black shale series, and the lower or ordinary limestones—are represented within the county, the beds belonging to the upper and lower series covering the larger areas. The strata that compose the coal series occupy a considerable basin within the eastern division of Queen's County, towards its southern border, into which they extend from the adjoining county of Kilkenny. There are some coal-pits within the county, the produce of which is used chiefly for forges, malt-kilns, and similar purposes.

In the western division of Queen's County, the limestone beds of

the lower group are succeeded, to the west of Maryborough, by carboniferous slate and other strata belonging to the yellow sandstone group—the latter composed of yellowish (and occasionally red) sandstones and sandstone slates. The latter, which are the lowest members of the carboniferous system, pass into the old red (or Devonian) strata of the Slieve Bloom Mountains, capped on their higher acclivities by mica and clay slates. Besides coal, iron, copper, and manganese are found within the county, but are not worked. Ochre, fullers' earth, and potters' clay, are also met with, and the last-mentioned is used for tiles and coarse earthenware. Sandstone is quarried for building purposes, and slates are worked.

The industry of Queen's County is chiefly agricultural. A large proportion of the land is under tillage. Dairy-farming is also extensively pursued, and great numbers of live stock are reared.

Queen's County is divided into 11 baronies. Its towns are:—

	Pop.		Pop.		Pop.
MARYBOROUGH	2,857	PORTARLING-		MOUNTRATH.	2,085
MOUNTMELICK	3,056	TON.	2,389		

Portarlington is a parliamentary borough, returning one member. Two members are returned by the county.

Maryborough, the county-town, stands on the little stream of the Triogue, an affluent of the Barrow, on the great line of railway communication between Dublin and the south-western portion of the island. Its name is derived from that of the sovereign in whose reign this part of Ireland was first constituted a county—Queen Mary.

Mountmellick, on the Owenass river, another of the tributary streams of the Barrow, is 6 miles to the N. of Maryborough.

Portarlington, on the northern border of the county, lies upon either bank of the river Barrow, and is partly within King's County.* *Mountrath*, 8 miles W.S.W. of Maryborough, is the chief place in the western division of the county.

8. KILKENNY, an inland county, has an area of 509,732 acres, or 796 square miles. It extends southward from Queen's County to the valley of the Suir, and eastward from the Munster and Leinster border to the course of the river Barrow—the rivers Suir and Barrow forming its frontier-line on the south and east.

* The name of this town is derived from that of its founder, the Lord Arlington of Charles II.'s reign. The prefix of "Port" was bestowed from the fact of the selected site being a landing-place on the river.

Kilkenny has a diversified surface, the greater part of it being hilly, though only of moderate elevation. The northern division of the county includes the groups of the Castlecomer Hills and the Slieve Marcy, upon the east side of the valley of the Nore, and the Culla Hills, to the westward of that river. The most elevated of the Castlecomer Hills (N.W. of the town of Castlecomer, and near the border of Queen's County) is 1,027 feet high. These hills are divided from the Slieve Marcy group by the valley of the Dinan river, which joins the Nore on its left bank. The Culla Hills are of inferior elevation, and their highest point (914 feet) is within the adjacent Queen's County: their undulating slopes spread, however, over a considerable area of Kilkenny, within its north-westerly division.

The portion of Kilkenny which lies south of the above-described hilly region—that is, the middle division of the county, across its whole breadth (S. of the city of Kilkenny)—is comparatively low, though its surface is everywhere undulating. The southern division of the county becomes again hilly, and reaches in some points a greater elevation than is the case with any of the hills elsewhere found within its area. Mount Brandon, near the right bank of the Barrow, and in the neighbourhood of the town of Graiguenamanagh, is 1,696 feet high, and all the adjacent tract of country enclosed between the rivers Nore and Barrow, towards their point of junction, is elevated. The hills approach close to the right bank of the river Barrow in this portion of its course, and offer in many parts scenery of exceeding beauty. That portion of the county which is west of the Barrow and Nore is mostly covered by hills of nearly equal elevation, which fill up the chief portion of its surface, excepting along the north bank of the Suir, where a level tract of rich land, varying from two to five miles in breadth, extends between the river and the neighbouring hills. Tory Hill, a conical elevation in this part of the county (about 6 miles N.W. of Waterford), is a conspicuous landmark, visible from a considerable distance. The Booley Mountains are farther to the west, and are partly divided from Tory Hill and the adjacent eminences by the valley of the Kilmacow river, an affluent of the Suir.

The chief rivers of Kilkenny are the Nore, Barrow, and Suir. The two latter are only border streams, but the Nore traverses the county through the greater part of its length, from N.W. to S.E. The Nore is navigable for vessels not exceeding 15 tons up to Thomastown, about 12 miles below the city of Kilkenny: vessels of 80 tons ascend to Inistioge, about 6 miles lower down, to which place the tide reaches. The Nore is joined on its left bank, above Kilkenny, by the Dinan river; on its right bank, below Kilkenny, by the Owenree or King's river, and the Argula river, the latter of which

has a northwardly course, flowing from the high grounds that occupy the extreme south-easterly portion of the county. The Barrow is navigable, for barges and lighters, along the whole line of the county-border, and ships of 800 tons ascend to within a short distance below the junction of the Nore. The Suir is navigable, along the southern border-line of Kilkenny, and for a short distance beyond, for vessels of 120 tons.

The *geology* of Kilkenny exhibits principally limestones of the upper and lower group, correspondent to those by which so large a portion of the island is occupied. An extensive area in the north and east (reaching across the whole breadth of the county, into the adjoining portions of Queen's County and Tipperary on either side, and entirely surrounded by the limestone strata) is occupied by the lower members of the coal series, and beds of coal, alternating with shale, argillaceous ironstone, and sandstone, occur over a tract of considerable extent, to the eastward of the Nore, in the neighbourhood of Castlecomer, and towards the border of Queen's County. The coal, which is worked in many places (chiefly to the N.E. of Castlecomer), is of the quality of anthracite, and is used for domestic purposes, as well as for malting. It is generally accompanied by culm,* which is used extensively for burning lime.

The hilly tracts in the south of Kilkenny are composed principally of old red sandstone (Devonian) strata, surmounted by clay-slate. The detached eminence of Mount Brandon, on the west bank of the Barrow, consists of granite, and forms part of the extensive area which is occupied by the primitive formations of Carlow.

Iron, manganese, and silex, are extensively diffused through the limestones of Kilkenny, especially towards their place of contact with the coal strata. In the neighbourhood of the city of Kilkenny, the limestone passes into a fine black marble, marked with madrepores and various shells. This marble is extensively worked, and forms an exceedingly beautiful stone—sometimes of jet black colour, and bearing a high polish. There are chalybeate springs in several parts of the county.

The industry of Kilkenny is chiefly agricultural. The low tract which borders the river Suir includes some of the best arable land in Ireland; large crops of oats, wheat, and other grains, are raised both there and in other parts of the county. The higher grounds are chiefly under pasture. There were formerly considerable woollen manufactures in the city of Kilkenny and other places; but these have become nearly (if not altogether) extinct.

* An inferior description of anthracite, of stoney or shaley quality.

Kilkenny is divided into 10 baronies. The only places within it having more than 2,000 inhabitants are:—

	Pop.		Pop.
KILKENNY . . .	17,441	CALLAN . . .	2,322

Kilkenny is a parliamentary borough, returning one member. The county returns two members.

Kilkenny, the capital of the county (and also a city and county of itself), lies chiefly on the right or western bank of the Nore, but has an extensive suburb to the east of the river. The larger and older portion is divided into the city of Kilkenny, properly so called, which comprehends its southern portion (towards the castle, situated on a commanding eminence above the Nore), and Irishtown, which includes the more northwardly portion, with the cathedral, portions of which date from the early part of the 13th century.

Kilkenny fills a place of high importance in Irish history. Parliaments and vice-royal courts were frequently held there during the earlier period of English dominion, and it became on many occasions the stronghold of the Roman Catholic cause. Its garrison were compelled, after a gallant resistance, to surrender to Cromwell, in 1650. The population of Kilkenny has undergone a material diminution within the last twenty years, since the decline of its woollen manufactures.*

Callan is a small town on the Owenree or King's river, 10 miles to the S.W. of Kilkenny. *Kells*, a small place on the same stream (about 6 miles E. of Callan), and now a mere village, attracts notice by the extensive ruins of its ancient abbey. The yet older and more extensive remains of Jerpoint Abbey, which dates from the 12th century, are in the neighbourhood of *Thomastown*, a small market-town on the Nore, 11 miles to the south-eastward of Kilkenny.

9. CARLOW, an inland county (and, next to Louth, the smallest in Ireland), has an area of 221,342 acres, or 346 square miles. The larger portion of Carlow is comprehended between the Barrow and the Slaney rivers, but a small portion of it, on the borders of Queen's County and Kilkenny, passes to the westward of the Barrow, and a more extensive portion lies to the east of the Slaney, bordering in

* In 1841 the city of Kilkenny (including the adjacent liberties comprehended within the county of the city) was 23,615. In 1851 the population of the city had increased to 20,283. In 1861 the population of the city had diminished to 13,019; that of the city and liberties together being only 17,441.

that direction upon the counties of Wicklow and Wexford. The northern frontier of Carlow adjoins the county of Kildare.

The highest elevations of Carlow are in the south-east, where a chain of granite mountains extend between the rivers Slaney and Barrow in the direction of N.E. and S.W., along the border-line between Carlow and Wexford. Mt. Leinster, the highest of these eminences, reaches 2,604 feet above the sea; Black Stairs, 2,411 feet; and the White Mountain, 1,627 feet. Between Mt. Leinster and the Black Stairs Mountain is the deep ravine called Scallagh Gap, through which the only road that traverses the chain is carried.

The rest of the county is only of moderate elevation. The tract included between the Barrow and the Slaney is for the most part a plain of high fertility. To the eastward of the Slaney the ground rises towards the Wicklow Mountains, and, towards the extremity of the county in that direction, becomes considerably higher. Eagle Hill, in the neighbourhood of Hacketstown (near the Wicklow border), is 973 feet in height. The portion of Carlow which is to the west of the Barrow is also high. Cloghrennan Hill, near the border of Queen's County, reaches 1,032 feet: this and adjoining heights of scarcely inferior elevation belong to the chain of high ground which accompanies the right bank of the Barrow nearly throughout.

The principal rivers of Carlow are the Barrow and Slaney. The chief affluent of the Barrow within the county is the Burren, which has a northwardly course, afterwards bending to the west, and joining the Barrow at the town of Carlow. The Slaney is joined on its left bank by a considerable stream which comes from the southern part of the Wicklow Mountains, and passes Hacketstown, finally joining the Slaney about 3 miles below the town of Tullow.

The chief ingredient in the *geology* of Carlow is granite. This rock, which forms the basis of the neighbouring mountains of Wicklow, extends thence to the south-westward across the whole of Carlow, in the direction of its length, and occupies nearly its entire breadth. Within the level portions of the county, the granite is overlaid by a surface soil composed of gravelly limestone, but in the high grounds of the Black Stairs range it comes to the surface and forms the highest elevations. At the northern extremity of this range, the clay-slate (Silurian) of Wexford penetrates into Carlow, and covers the northern slopes of Mount Leinster and the tract that stretches immediately northward from the base of that mountain. The granite disappears, on its western side, at a short distance from the left bank of the Barrow, and is replaced by the limestones of the carboniferous period: these latter occupy the immediate valley of the Barrow, and are themselves covered, towards the Kilkenny border, by the coal-measures of the Castlecomer coal-field. The strata of the

lower limestone, calp, and upper limestone series, are seen in regular succession, parallel to the river's course, in the elongated valley through which the Barrow has cut its way. The limestone is partially worked for building purposes: the granite of Carlow is extensively quarried for like uses.

The industry of Carlow is almost exclusively agricultural; corn, butter, flour, and oatmeal, are its chief productions. Oats and barley are the grains most largely raised, and malting is carried on upon an extensive scale. The water power afforded by the Barrow is made available for turning numerous corn-mills. Dairy-farming is pursued on a large scale, and with great success.

Carlow is divided into 7 baronies. The only towns within the county containing upwards of 2,000 inhabitants are:—

	Pop.		Pop.		Pop.
CARLOW	8,204	BAGENALSTOWN	2,047	TULLOW	2,384

Carlow is a parliamentary borough, returning one member. Two members are returned for the county.

The county-town, *Carlow*, is situated on the left bank of the Barrow, at the point where it is joined by the stream of the Burren. Its suburb of Graigue, on the opposite side of the Barrow, is within Queen's County. The castle of Carlow, one of the strongholds erected towards the end of the 12th century, by the early English conquerors of the island, and now an extensive ruin, has been the scene of many events of importance in Irish history.

Bagenalstown is a small place on the left bank of the Barrow, 9 miles below Carlow. *Tullow*, 7 miles E. by S. of Carlow, is on the right bank of the river Slaney.

10. KILDARE, an inland county, has an area of 418,436 acres, or 654 square miles. A considerable part of its western boundary is marked by the course of the Barrow, from which river it stretches northward to the upper course of the Boyne and its affluents, and eastward over a portion of the Liffey basin. Kildare is bordered by as many as six other counties—Dublin, Wicklow, and Carlow, on the east and south; Meath, King's County, and Queen's County, on its northern and western sides.

The greater part of Kildare has a level surface, and a large portion of its central and northern divisions consists of bog. The bog-region does not form one continuous tract, but is divided into several distinct sections by intervening portions of dry ground, raised in general to a trifling level above its surface, and in a few cases attaining no inconsiderable altitude. Though for the most part level,

yet the average elevation of Kildare above the sea is not less than 250 or 260 feet, and probably no portion of the county, unless towards its north-eastern extremity, is under 200 feet above the sea. Its central bog-region is a tract whence numerous streams issue, flowing in opposite directions, and contributing their waters to the respective basins of the Boyne, the Barrow, and the Liffey. The larger portion of the bog-land belongs to the tract known, in a general sense, as the Bog of Allen, which stretches from Kildare westward into the adjacent King's County.

The highest ground within Kildare is found towards its eastern border, where it approaches the group of the Wicklow Mountains, and in a detached group of hills lying to the northward of the town of Kildare, and rising immediately out of the adjacent bog-land. The most conspicuous of these is the Hill of Allen, which reaches 676 feet above the sea, or from three to four hundred feet above the adjacent tract of country, out of which it rises like an island. The Dunmurry Hills, to the S.W. of the Hill of Allen, and separated from it by a slight depression, reach 769 feet. From these hills, moderately elevated plains stretch in the directions of north and east, towards the borders of the county. The southern division of the county has a more generally undulating surface, but has no conspicuous elevations, excepting upon the Wicklow border.

The chief rivers of Kildare are the Barrow and the Liffey. The former lies chiefly upon the county border, though for a short distance (in the neighbourhood of Athy) within its limits. The Barrow is joined, on the border of Kildare and Queen's County, by the united stream of the Feagile and Little Barrow; and lower down, within Kildare, by the Finnerly, the Griese, and the Lerr rivers—all on its left bank. The Liffey has a considerable part of its course within the county, and flows through a highly cultivated and productive tract, within which are numerous private grounds, or demesne lands, bordering on its stream. Where it approaches the Dublin border, between the small towns of Celbridge and Leixlip, the banks of the Liffey are steep and wooded: the river here forms a series of rapids, and the Salmon Leap, a well-known waterfall (immediately adjacent to Leixlip), has a descent of several feet.

The northwardly slope of the county belongs to the Boyne basin; the source of that river is within its limits.

The chief part of Kildare belongs *geologically* to the great limestone plain of central Ireland. The lower members of the limestone group are most extensively developed, but are replaced, within some limited areas towards the north and south, by strata of the middle or calp series. The eastwardly and south-eastwardly portions of Kildare (all that part which lies to the east of a line drawn from

Naas to the southern extremity of the county) are occupied by clay-slate: this passes into mica-slate as it approaches the line of junction with the granite of Carlow, a small portion of which penetrates the extreme south of Kildare, in the neighbourhood of Castle Dermot. The group of the Dunnurly Hills, and the neighbouring hill of Allen, consist of a red sandstone conglomerate (of the old red or Devonian period),—overtopped, in the hill of Allen, by compact greenstone and porphyry.

Kildare is a thoroughly agricultural county. It includes some of the most productive arable land in Ireland. The larger portion of the land, however, is in pasture. The woollen, cotton, lace, and paper manufactures are carried on to a limited extent.

Kildare is divided into 14 baronies. Its most considerable towns are:—

	Pop.		Pop.		Pop.
ATHY . . .	4,113	NAAS . . .	2,959	MAYNOOTH . .	2,091

The county of Kildare returns two members to the imperial parliament. Both Athy and Naas have the rank of county-towns, the assizes being held alternately at each.

Athy stands on the left bank of the Barrow, at the farthest point from the sea to which the navigation of that river extends: a branch of the Grand Canal, which joins the Barrow at this point, continues the navigation to the northward, and connects it with that of the Liffey and the Shannon.

Naas lies about two miles distant from the right bank of the river Liffey, and upon a branch of the Grand Canal. The town of *Kildare*, a small place, rendered of importance by the fact of its being a bishop's see, as well as by its antiquities, lies 11 miles to the W.S.W. of Naas, and 12 miles distant from Athy, in the direction of N. by E. In its neighbourhood, to the eastward, is the extensive tract of common (about 4,000 acres) known as the Curragh of Kildare—used chiefly as pasture ground, and within late years made the station of a military camp. Kildare possesses one of the most conspicuous and perfect of the round towers. *Monasteravin*, on the Barrow, is 7 miles W.S.W. of Kildare.

Maynooth, *Colbridge*, and *Leixlip*, are small towns situated within the north-eastern extremity of the county—the two latter on the Liffey. Maynooth, which is 5 miles to the W. by N. of Leixlip, and 13 miles distant (in the same direction) from Dublin, is on the lines both of the Royal Canal and the Midland Great Western railway. Its only importance is derived from its college, founded in 1795 for the education of candidates for orders in the Roman Catholic Church.

11. **WICKLOW**, a maritime county, has an area of 500,178 acres, or 781 square miles. Its coast-line, which is of regular contour, includes the two conspicuous promontories of Bray Head and Wicklow Head, both of them high. The inland border of the county is irregular: it coincides for a short distance in the north-west with the course of the river Liffey, and in portions of the south-west with some of the affluents of the Slaney.

Wicklow is one of the most diversified portions of Ireland. The greater part of the county is occupied by the group of the Wicklow Mountains, the general features of which have been elsewhere described.* The general direction (or strike) of the mountain-region is from N.E. to S.W., coincident with the greatest length of the county. The principal valleys—or glens, as they are locally termed—which penetrate the higher mountain-tract have for the most part a transverse direction, at right angles to that of the main line of elevation, that is, from N.W. to S.E. These transverse valleys, however, subsequently open, towards the outlying and less elevated portions, into broader valleys, of which the direction becomes parallel (or nearly so) to that of the higher mountain crest. The whole region is thus divided into numerous groups, each of which has a kind of central point or nucleus, whence the elevated and narrow glens, each with a mountain-torrent that hurries along its bed, descend in opposite directions upon either hand—on the one side inland, on the other directly towards the Irish Sea, which the waters of the western mountain-slope ultimately reach by a longer circuit. Many of the higher glens are the beds of lakes, long and narrow in shape, like those of the Scotch highlands, though on a smaller scale.

The principal summits amongst the Wicklow Mountains are:—

Lugnaquilla, near the head of Glenmalure, on its S.W. side	Feet
(18 miles due W. of the town of Wicklow)	3,039
Table Mountain, to the N. of Lugnaquilla, and near the head of Glen Imale	2,302
Lugduff, between Glenmalure and Glendalough (or the valley of the Seven Churches)	2,148
Comaderry, to the N.W. of Lugduff, and on the N. side of Glenmalure, near its head	2,296
Knockreagh, to the S.E. of Lugduff, and between the valleys of the Avon-more and Avon-beg	1,559
Croghan, on the S. side of the Avon-beg valley, and S.E. of Lugnaquilla	2,175
Croghan Kinshela, on the Wicklow and Wexford border, seven miles W. of Arklow	1,985

* See *ante*, p. 590.

	Feet
Mt. Caldeen, S. W. of Lugnaquilla	2,143
Thonelagee, at the head of Glenmacnass, and to the north of Comaderry, from which it is divided by Wicklow Gap, a ravine which here crosses the mountain-region	2,683
Sorrel Hill, S. of the Liffey valley, 3 miles S.E. of Bles- sington	1,975
Douce Mountain, near the head of the Vartry and Dargle rivers	2,384
Sugar-loaf, on the S. side of the Dargle valley	1,651
Kippure, near the head of the Liffey, and on the Wicklow and Dublin border	2,473

The mountain-region makes on the east near approach to the sea, and actually reaches it at the headland of Bray. To the southward of Bray Head, the tract lying immediately along the coast is for the most part merely undulating, and in the extreme south-east, towards the mouth of the Ovoca river, becomes comparatively level. On the west, the mountains decline by a gradual slope towards the central plain. The lowland portion of the county, however, is of small extent, compared with the area of the mountain-tract.

The chief rivers of Wicklow are—the Liffey and the Slaney, with their several tributaries, on the western slope of the mountains: the Dargle, Vartry, and Ovoca, on the eastern or seaward slope.

The Liffey rises within the county, and assumes at first a west and south-westerly course, only inclining to the north and east as it flows through the adjoining counties of Kildare and Dublin. The Liffey forms, near Ballymore Eustace, immediately beyond the Wicklow border, the beautiful waterfall of Pollaphuca. Its chief affluent within the county of Wicklow is the King's river, which rises on the western slope of Thonelagee.

The Slaney also rises within Wicklow, on the N.W. side of Lugnaquilla, and flows through Glen Imale, a pastoral valley of exceeding beauty. Besides several small affluents from the higher mountain region, it receives, lower down, the rivers Derreen and Derry, both on its left bank. The Derreen river has a circuitous course, and joins the Slaney within the county of Carlow, as also does the Derry, a shorter stream.

The river Dargle, which enters the sea at Bray, on the Dublin and Wicklow border, rises on the northern slope of Douce Mountain, and flows at first through Glenisloreane, within which it forms the beautiful waterfall of Powercourt, 300 feet in depth. It afterwards receives two tributary streams from the valleys of Glencree and Glencullen. The Glen of the Downs, four miles S. of Bray, is watered

by a small stream which passes the village of Delgany, and drains the south-eastern slope of the Sugar-loaf Mountain.

The river Vartry rises on the south-eastern slope of the Douce Mountain, and flows in its lower course through the Devil's Glen, a narrow and romantic opening, at one part of which the river precipitates itself over a ledge of rock 100 feet deep, and forms a magnificent waterfall.

The Ovoca (or Avoca) is formed by the junction of the Avon-more and the Avon-beg,* at the spot known as "the Meeting of the Waters." The Avon-more passes in its upper course through Loch Dan, two miles long, and lying at an elevation of 678 feet above the sea. Lough Dan receives an affluent from Lough Tay, of smaller size. Lower down, the Avon-more receives, on its right bank, the streams that water the vales of Glenmacnass, Glendassan, and Glendalough, all three of which include small lakes. Lough Ouler, a circular lake (or tarn), belongs to the upper part of Glenmacnass: Lough Nahanagan is at the head of Glendassan. Glendalough† includes two lakes—an upper and lower, the former of them about a mile in length, the lower only a quarter of a mile long. The ruins of the Seven Churches adjoin the foot of the lower lake. The Avon-beg river flows through Glennalure. The Aughrim or Daragh river joins the Ovoca on its right bank, about three miles below the union of the Avon-more and Avon-beg, forming a second "meeting of the waters," which rivals in beauty the point of junction higher up.

The *geology* of Wicklow exhibits almost entirely primary and palæozoic rocks. The central mass of the mountain-region consists of granite, which in some localities becomes porphyritic in structure, and in some cases exhibits veins of quartz. Numerous minerals of value—schorl, tourmaline, garnet, beryl, rock-crystal, spar, and magnetic ironstone—are found within the granite region, or at its points of contact with the adjacent mica and clay-slate area. The granite is bordered both to the east and west by clay-slate (lower Silurian), which covers a large portion of the county, especially to the eastward. The clay-slate frequently passes into mica-slate. A small area (between the mouths of the Dargle and Vartry rivers) consists of the limestone strata so prevailingly developed elsewhere. The strata of the eastern clay-slate area are frequently broken through by masses of granite, which here assumes in some places a sienitic and in others a porphyritic character. The clay-slate itself is associated with granite, mica-slate, quartz, flinty-slate, greywacke, trap,

* That is, great and little Avon.

† That is, Glen-da-lough, or the valley of the two lakes.

and porphyry. Quartz rock is found in masses to the north of the clay-slate district, towards the upper part of the Dargle valley.

The clay-slate on the eastern side of the central granite range of Wicklow abounds in metals, while on the opposite side of the county metallic ores are altogether absent. The metals chiefly worked are copper and lead, but gold, silver, iron, zinc, tin, manganese, arsenic, antimony, and others, also occur—all of them principally within the south-eastern portion of the county. The principal lead-mines are in Glenmalure; the copper-mines within the valley of the Avon-more. Gold has on several occasions been wrought—chiefly by means of washing—in the neighbourhood of Croghan Kinshela, and elsewhere. Roofing-slate is quarried in the valley of the Avon-more, and the prevailing granite of the county is extensively employed for building.

The industry of Wicklow, however, is chiefly agricultural. The lower grounds have in many parts a soil of great fertility, though some of them consist of bog. Dairy-farming is a very general pursuit throughout the county, which, on the whole, is the least populated portion of Leinster.

Wicklow is divided into 8 baronies. The only towns within it that contain as many as 2,000 inhabitants are:—

	Pop.		Pop.		Pop.
WICKLOW	3,395	ARKLOW	4,670	BRAY	4,273

The last-named of these is partly in the county of Dublin. The county of Wicklow returns two members to the imperial parliament.

The county-town, *Wicklow*, lies on the coast, at the entrance of the estuary formed by the river Vartry (called Brom Lough). It has the remains of an ancient castle, of Anglo-Norman origin, and the scene of many events in Irish annals. Wicklow has some shipping trade, exporting copper and lead ore, together with corn, and importing coal, limestone, timber, iron, &c. *Arklow*, towards the southern border of the county, is at the mouth of the Ovoca river, which forms a harbour accessible to vessels drawing not more than four or five feet of water. It was the scene of a sanguinary engagement during the rebellion of 1798.

12. WEXFORD, a maritime county, has an area of 576,588 acres, or 901 square miles. It includes portions both of the eastern and southern coasts of Ireland. The eastern coast-line is generally low, and presents for the most part a regular outline, excepting towards the south, where it is broken by the considerable expanse of Wexford Haven.

Upon this side of the county are the headlands of Kilmichael Point, Cahore Point, Raven and Roslare Points (the two last-named at the entrance of Wexford Harbour), Greenore Point, and Carnsore Point, the last forming the south-eastern extremity of the island. About 7 miles off Carnsore Point, in the direction of E.N.E., is the Tuskar Rock, a dangerous islet, upon which is a lighthouse. A bar of shifting sand at the entrance of Wexford Haven prevents the admission of vessels of more than 200 tons burthen.

The southern coast-line extends from Carnsore Point to Hook Head, at the entrance of Waterford Harbour. Nearly midway between these two headlands is Crossfarnogue Point, off which, a few miles to seaward, are the Saltee Islands, the largest of them about a mile in length. Lady's Island Lake, and Tacumshin Lake, two extensive and shallow salt-water inlets (the former only connected with the sea by an artificial opening), adjoin the coast to the westward of Carnsore Point. The coast lying between Crossfarnogue Point and Hook Head includes the broad opening of Ballyteige Bay, with which the inlet of Ballyteige Lough is connected, and also the inlet of Bannow Bay, which runs inland for several miles.

The inland frontier of the county is marked on the west by the lower portion of the river Barrow and the range of the Black Stairs Mountains. On the north, the frontier-line coincides in part with the outlying elevations of the Wicklow Mountains.

The greater part of Wexford has a moderately elevated and hilly surface, and the ground rises towards the north-west and north, along the Carlow and Wicklow border, into mountains of considerable height. The most level portions of the county are in the south-east, and more especially the tract extending along the coast to the northward of Wexford Haven.

The ridge of the Black Stairs Mountains and the adjacent Mount Leinster divide Wexford from Carlow. The highest point of the Black Stairs chain is 2,411 feet: Mount Leinster 2,604 feet in elevation. The mountain called Croghan Kinshela (on the Wicklow border, and at the northern extremity of the county of Wexford) is 1,985 feet; Conna Hill, which adjoins Croghan Kinshela to the S.W., is 1,491 feet; and Slieve Boy, a few miles farther to the S.W., 1,384 feet. Excepting in the case of these border ranges, none of the Wexford Hills reach a thousand feet in height, though some of them are little short of that altitude. Tara Hill, near the east coast, and a few miles S. of the Wicklow border, is 825 feet high. The Hill of Lackan, near New Ross, is 628 feet high, and Slieve Kielter, farther to the south, 887 feet. Carrickburn, 766 feet, and Camorus Hill, 598 feet, are in the centre of the county, midway between the Barrow and Slaney rivers. The Forth Mountain, near the town of Wexford (to the S.W.), is 774 feet.

The chief rivers of Wexford are the Barrow and Slaney. The former runs along a part of the western border, but the Slaney has the lower half of its course within the county. The Slaney is navigable for large boats from the town of Enniscorthy downward to its entrance into Wexford Haven—a distance of 11 miles. It is joined on the left bank, above Enniscorthy, by the river Bann; and on the right bank, below Enniscorthy, by the Urn and the Boro' rivers, both of which have their sources in the Black Stairs range. Of smaller streams, the most considerable are the Owenavorragh river, which enters the Irish Sea 6 miles north of Cahore Point; the Sow, which flows into an arm of Wexford Haven; and some small streams which flow into Bannow Bay, on the south coast.

Nearly the whole of Wexford belongs, *geologically*, to the clay-slate (Silurian) period. The strata are continuous with those of the adjoining county of Wicklow, the whole covering an extensive area, which stretches from the southern coast-line of the island to the north-eastward as far as the northern limit of Wicklow and the adjoining Dublin border, with a breadth of from 15 to 20 miles. The clay-slate of Wexford comes into contact, on the west, with the granite of the Black Stairs chain.* Granite appears also at Carnsore Point, in the extreme south-east of the county, and at some points amongst its central hills. Upon the east the clay-slate is in many places broken through by quartz, which forms nearly the entire mass of the Forth Mountain, S.W. of the town of Wexford. Farther northward, beds of greenstone, as well as quartz, alternate in some localities with the prevailing rock. Tara Hill consists chiefly of porphyry, with occasional felspar and greenstone. The gravels and sands of the tertiary period appear at various points along the eastern coast, to the northward of Wexford Haven.

A narrow belt of limestone, bordered on the west by a still narrower belt of carboniferous slate—the latter adjoining on the east the quartz rock of the Forth Mountain—stretches across the peninsula which intervenes between the south-westernmost recess of Wexford Haven, and the northern shore of Ballyteige Lough. Lead, silver, and copper, have been worked at former periods within the county. Slate is quarried in some localities.

The chief industry of Wexford is agricultural. The larger portion of the county has a soil and climate highly favourable for arable husbandry, and considerable crops of grain—chiefly oats and barley—are raised, in great part for export. Butter and other articles of farm produce, especially live stock (cattle, pigs, and poultry), are extensively supplied for the export market.

* See *ante*, p. 626.

Wexford is divided into 9 baronies. Its chief towns are:—

	Pop.		Pop.
WEXFORD . . .	12,015	NEW ROSS . . .	6,488
ENNISCORTHY . . .	5,369	GOREY . . .	2,673

Wexford and New Ross are parliamentary boroughs, each returning one member. The county returns two members.

The town of *Wexford*, the capital of the county, is situated on the S.W. shore of Wexford Haven, near the outlet of the river Slaney. Its chief importance is derived from its shipping trade, which is considerable, and its extensive markets for agricultural produce. Wexford was the first town acquired by the English invaders of Ireland, under Fitz-Stephen, in 1172. *Enniscorthy*, 12 miles N. by W. of Wexford, lies chiefly on the right bank of the Slaney. A portion of the town, however, is on the opposite bank of the river; immediately adjacent to this portion is Vinegar Hill, noteworthy as the scene of a sanguinary encounter between the royal troops and the insurgents during the rebellion of 1798. Considerable quantities of the export produce of the county are sent from Enniscorthy, by barges which convey it to Wexford for final shipment.

The town of *New Ross* is situated on the left bank of the Barrow, there crossed by a bridge which connects it with a suburb on the opposite or Kilkenny side of the river. New Ross has considerable trade, both export and import. *Gorey* is a small town in the north-eastern division of the county, 3 miles distant from the coast.

ULSTER.

1. **ARMAGH**, an inland county, has an area of 328,078 acres, or 513 square miles. It extends from the Leinster border northward to Lough Neagh, and is mostly included, in the direction of east and west, between the courses of the Newry and Blackwater rivers, both of which mark portions of the county boundary.

The southern division of Armagh includes several considerable elevations, the most conspicuous of which form a continuation of the mountains which fill up the peninsula on the west side of Lough Carlingford, and form the north-eastern extremity of Louth.* Among these, within the extreme south-east of Armagh, are the Newry Mountain, 1,385 feet, and Slieve Gullion, 1,893 feet. Farther to the northward (and also at a greater distance from the southern border

* See *ante*, p. 613.

of the county) are Armagh-breague, 1,200 feet, and Dead Man's Hill, 1,178 feet — both in the neighbourhood of Newtown Hamilton. The hill called Vicar's Cairn, 814 feet, is still farther north. The west of the county exhibits an undulating and generally rounded surface, which gradually declines towards Lough Neagh.

The greater part of Armagh is included within the basin of Lough Neagh. The Blackwater and the Upper Bann, both of which fall into Lough Neagh, are its two principal rivers. The Blackwater is joined, six miles above the lough, by the Callan river, which passes the city of Armagh. The chief affluent of the Upper Bann is the Cusher river.

The southward and less extensive slope of the county is drained by some small streams which flow (through the intervening county of Louth) into Dundalk Bay, and by the Newry river, which enters Carlingford Lough. The Newry river has the upper part of its course within the adjoining county of Down. The waters of Carlingford Lough are connected with those of Lough Neagh by the Newry Canal, which extends (along the border-line of Down and Armagh) from the Newry river to the Upper Bann, which it joins about 2 miles above Portadown. The railway which extends northward from Dundalk into Ulster follows nearly the same line.

The *geological* features of Armagh are very various. The predominant strata are clay-slate (Silurian), which cover all the middle portion of the county. The mountains in the extreme south-eastern division of Armagh, like those of the adjacent parts of Down, are composed chiefly of granite, with occasional veins of trap. In the north-east the tabular trap of Antrim penetrates into Armagh, and extends over an area of some extent upon either side of the Upper Bann. Part of the western division of the county (between the town of Antrim and the Blackwater river) exhibits the limestone strata of the central plain; these are succeeded, to the northward, by new red sandstone, and that, again, by tertiary strata (various-coloured clays), which last lie around the southern and south-western shores of Lough Neagh. The limestone of the county is extensively employed for building purposes.

The staple industry of Armagh is in connection with the linen manufacture, which is largely carried on in the neighbourhood of Lurgan and Portadown, and elsewhere. Armagh is, with the single exception of Dublin, the most populous county in Ireland.* Its husbandry is also extensive, especially within its central and northern divisions, where the population is chiefly clustered. The southern division of the county, towards Louth, has a poorer soil, and a thinner population.

* See Table in p. 609.

Armagh is divided into 8 baronies. Its chief towns are: —

	Pop.		Pop.		Pop.
ARMAGH	8,655	PORTADOWN.	2,939	LURGAN	7,766

Armagh is a parliamentary borough, returning one member. The county returns two members.

Armagh is a cathedral city, and the ecclesiastical metropolis of Ireland. It stands beside the right bank of the Callan river, at the base and on the slopes of a gentle eminence. Armagh has both a Protestant and a Roman Catholic cathedral, the former occupying the site of an edifice erected by St. Patrick in the 5th century. Portions of the present building date from the 12th century. The city itself is of ancient origin, and was distinguished, during the period between the 5th and the 9th centuries, as a seat of learning. A curious ancient work, consisting of a circular foss and rampart, situated 2 miles west of Armagh, marks the site of Eamania, the former residence of the native kings of this part of Ireland, but destroyed at a very early period of Irish annals.

Portadown lies in the north-eastern part of the county, on the left bank of the upper Bann river. *Lurgan*, farther to the N.E., is only two miles distant from the south-eastern extremity of Lough Neagh: its chief importance is due to the manufacture of linens, and especially that of damasks and diapers.

2. **DOWN**, a maritime county, and the most eastwardly in Ireland, has an area of 612,495 acres, or 957 square miles. Its coast-line, which is very extensive, extends from Belfast Lough in the N. to Carlingford Lough in the S., and includes Lough Strangford and Dundrum Bay, besides several smaller inlets. Only the eastern shore of Belfast Lough, and the northern shore of Lough Carlingford, belong to Down. The coast between the entrance of Belfast Lough and the eastern extremity of Dundrum Bay is low, rocky, and dangerous. Several islets, as well as numerous reefs, adjoin this portion of the Irish shores, within which are Cloghy Bay and Quintin Bay, both a short distance to the northward of the opening which leads to Lough Strangford. The entrance to Lough Strangford is by a narrow channel, rendered difficult of navigation by the strength of its tidal current. The lough itself has several good anchorages, and includes numerous small islands.

Between the entrance of Lough Carlingford and Dundrum Bay are Ardglass Harbour and Killough Bay, both frequented by shipping. Dundrum Bay is a broad, exposed, and shallow opening, with dangerous quicksands near the coast. Upon the west side of Dun-

drum Bay, the Mourne Mountains come close to the sea. The entrance of Carlingford Lough is rendered somewhat dangerous by rocks and shoals, but a safe navigation extends thence up to its head, at the mouth of the Newry river.

The greater part of Down has a hilly surface. The highest grounds are in the south, where the group of the Mourne Mountains fills the tract of country lying between Dundrum Bay and Lough Carlingford. To the northward of the Mourne Mountains, and forming a distinct tract of high ground, is Slieve Croob, on the northern slopes of which the river Lagan has its source. There is also a hilly district, of greatly inferior altitude, towards the north-eastern extremity of the county, within the tract included between Belfast Lough and the head of Lough Strangford.

The highest point of the Mourne Mountains, Slieve Donard, reaches 2,796 feet above the sea: Slieve More, which adjoins it on the west, is 2,443 feet, and Slieve-beg 2,384 feet. Slieve Bingian, a short distance to the southward, is 2,449 feet: Slieve Muck (at the source of the Upper Bann river), 2,198 feet; and the Eagle Mountain, farther to the S.W., 2,081 feet. The mountain-sides are in many parts clothed with wood, and the scenery of the whole region is highly attractive. The highest elevation of Slieve Croob is 1,775 feet. Of the hills in the more northerly part of the county, the two most conspicuous are Carngaver, 720 feet, and Scrabo, 554 feet.

The chief rivers of Down are the Lagan and the Upper Bann, both of which rise within the county—the former flowing (along great part of its northern border) into Belfast Lough, the latter into Lough Neagh. The Lagan rises at a height of 1,250 feet above the sea. The source of the Upper Bann is at a height of 1,467 feet. Next in importance to these are the Newry river (which also has its source within the county, and, after forming for some miles the boundary between Down and Armagh, enters the head of Carlingford Lough); and the Annacloy River, which enters the S.W. angle of Lough Strangford, by means of an estuary known as the Quoile river, and within which are numerous small islands. The Lagan Navigation connects the river Lagan with Lough Neagh, by means of an artificial channel; and the Newry Canal, along the western border of the county, unites the waters of Loughs Carlingford and Neagh by means of the Newry and Upper Bann rivers.

Clay-slate (Silurian) forms the predominant feature in the *geology* of Down, its strata covering by far the larger portion of the county. Next in importance is granite, of which both the Mourne Mountains and the Slieve Croob group are composed. The clay-slate is succeeded on the north by a narrow belt of new red sandstone, which accompanies the course of the river Lagan downward,

from the point where it begins to bend towards the direction of north and east. A small area adjoining the N.W. angle of the county, between the valley of the Lagan and the south-eastern extremity of Lough Neagh, is occupied by limestone of the cretaceous period (i.e. chalk), the beds of which immediately underlie the adjacent trap of Antrim. The yellow sandstone of the carboniferous series appears in the N.E. of the county, between Lough Strangford and the head of Belfast Lough. The clay-slate strata furnish the most important mineral produce of the county. There are slate quarries in several places, chiefly in the N. and N.E., towards the sea. Some lead-mines are worked in the same localities, and copper ore has been found.

Down is, upon the whole, a thickly-populated county, and has a large share in the prevailing linen manufacture of Ulster. The manufacturing district is chiefly in the north and west, along the course of the Lagan and Upper Bann rivers. Bleaching-works are especially numerous along the course of the Bann. A large area of the county is under cultivation, and good crops of oats, wheat, and barley are raised.

Down is divided into 9 baronies. Its most considerable towns are:—

	Pop.		Pop.		Pop.
DOWNPATRICK	3,685	GILFORD	2,884	BANGOR	2,525
NEWRY .	6,201	DROMORE	2,526	DONAGHADEE	2,664
BANBRIDGE .	4,032	HOLYWOOD	2,422	NEWTOWN ARDS	9,521

Downpatrick and Newry are parliamentary boroughs, each returning one member. The county returns two members.

Downpatrick, the county-town, is situated near the S.W. angle of Lough Strangford, on the right bank of the Quoile, or Annacloy river. It is of ancient date, and, according to some accounts, was the burial-place of St. Patrick. Its cathedral, rebuilt within a recent period, occupies the place of a prior structure which dated from the early part of the 15th century.

Newry, a seaport town enjoying considerable trade—chiefly in the export of grain, butter, and other provisions—is situated on the Newry river, principally on its left bank, but partly on the opposite side of the stream and within the county of Armagh. *Banbridge*, on the left bank of the Upper Bann, flourishes by means of its share in the linen trade and the extensive bleaching-greens in its vicinity. *Gilford*, 4 miles N.W. of Banbridge, is also on the Bann, lower down its stream. *Dromore* is on the right bank of the Lagan, 7 miles to the N.E. of Banbridge.

Holywood, Bangor, Newtown Ards, and *Donaghadee*, are all within the north-eastern portion of the county. The three former share in the manufacturing prosperity of Belfast and its neighbourhood. *Newtown Ards*, situated near the head of Lough Strangford, has considerable share in the weaving of muslins, besides markets for agricultural produce. *Donaghadee*, a seaport-town, is rendered important chiefly by its position in regard to the opposite coast of Scotland, which is only 21 miles distant.

Besides the places above mentioned, Down includes numerous smaller towns and villages, the inhabitants of which are more or less engaged in the various branches of the linen manufacture.

3. ANTRIM, a maritime county, forming the north-easternmost portion of Ireland, has an area of 761,877 acres, or 1,190 square miles. Its extensive line of coast reaches from Belfast Lough northward to Benmore, or Fair Head, the north-eastern extremity of Ireland, and westward from that promontory nearly as far as the mouth of the river Bann. The eastwardly portion of this coast-line (from Belfast Lough to Fair Head) borders on the North Channel, and includes Lough Larne, with Glenarm Bay, Red Bay, and Cushendun Bay, and the promontories of Ballygalley Head and Garron Point. Lough Larne penetrates several miles inland, and nearly divides from the mainland a narrow peninsula, of considerable extent, known as Island Magee.

The northern coast-line of Antrim borders on the open ocean. It includes the Bay of Ballycastle (a few miles W. of Fair Head), and the high promontory of Bengore Head, with the adjacent Giant's Causeway.* Rathlin Island lies opposite to this portion of the coast, at a distance of three miles from the mainland.

The greater part of Antrim is covered by mountains. To the northward of an imaginary line joining the north-eastern extremity of Lough Neagh and the western shore of Belfast Lough, the whole county forms a kind of plateau or table-land, composed entirely of trap, above which there rise numerous eminences. The highest portions of the table-land are near its eastern side, in close proximity to the North Channel, towards which they present their steeper declivities: the longer slope of the land is to the west and south, towards Lough Neagh. The deep and narrow glens which open out from the mountain region towards the sea within this portion of Antrim (which is known as "the Glens") exhibit scenery of great beauty. Trostan, the highest amongst the mountains of Antrim (4

* See *ante*, p. 587.

miles W. by S. of Red Bay) reaches 1,810 feet above the sea: Knocklayd, near the northern extremity of the county, is 1,685 feet: Slemish (7 miles E. by N. of Ballymena), 1,437 feet: St. Agnew's Hill (in the neighbourhood of Larne), 1,558 feet: and Divis, near Belfast, 1,559 feet. The last-mentioned eminence stands apart from the plateau-region which occupies the middle and northern divisions of the county, forming part of a continuous range of high ground which extends along the western side of the Lagan valley and Belfast Lough, from the neighbourhood of the town of Lisburn to the head of Lough Larne.

The chief rivers of Antrim are the Bann, the Main, the Six Mile Water, the Bush, and the Lagan. The first and last named of these are border streams: the others are entirely within the county.

The river Main, which has a southwardly course, enters Lough Neagh, a few miles east of the outlet of the Bann from the same lough, the courses of the two rivers being nearly parallel to one another, but in opposite directions—the Bann flowing from S. to N., and the Main from N. to S. The Six Mile Water also enters Lough Neagh, at the point where the town of Antrim is situated. Two smaller streams—the Crumlin and the Glenavy rivers—enter the lough on its eastern side, farther to the south. The river Bush, which drains part of the northward slope of the county, enters the Atlantic Ocean a short distance west of the Giant's Causeway.

Geologically, nearly the whole of Antrim consists of trap, which extends westward into the adjoining county of Londonderry, across the valley of the Bann river. The only considerable exception to the almost uniform prevalence of trap is in the north-east, towards Fair Head; the trap is here absent over an area of some extent, and clay-slate appears upon the surface. The trap of Antrim rests upon strata of chalk and greensand, with new red sandstone immediately below: these formations appear, in horizontal strata, upon the outer edges of the trap district, towards the sea, on the northern and eastern sides of the county, and along the valley of the Lagan, and the shore of Belfast Lough, in the south and south-east. The basaltic columns of the Giant's Causeway belong to the great field of trap, which there assumes a crystalline character.

The promontory of Fair Head consists of a detached mass of basalt. Workable coal-beds appear in immediate proximity to this headland upon either side, adjoining inland the clay-slate area of this portion of the county. The coal is worked to a limited extent. Rathlin Island is composed entirely of trap.

The industry of Antrim is chiefly manufacturing. Notwithstanding its considerable proportion of mountainous and unproductive land, Antrim has a higher average of population than any of the counties

of Leinster, with the exception of Dublin, and is only surpassed, in this respect, by Armagh and Down, amongst the counties of Ulster. The various branches of the linen manufacture are pursued, not merely in Belfast, Lisburn, Carrickfergus, and other towns, but are more or less combined with the occupations of the rural peasantry throughout the county. Arable husbandry is extensively pursued within the valley of the Lagan, which has throughout a fertile soil, and upon the western side of the county in general.

Antrim is divided into 14 baronies. It includes the following towns:—

	Pop.		Pop.		Pop.
BELFAST .	119,718	CARRICKFERGUS	9,417	BALLYMENA	6,739
LISBURN .	7,484	LARNE .	2,768	BALLYMONEY	2,599
		ANTRIM .	2,131		

Belfast is a city and parliamentary borough, returning two members. Lisburn and Carrickfergus are parliamentary boroughs, each returning one member. The county of Antrim returns two members.

Belfast, the capital of Antrim, and one of the largest cities of Ireland, is situated at the mouth of the Lagan, where that river enters Belfast Lough, and at the head of the last-named estuary. It is the second city of the island in point of population, being only below Dublin in that respect, and ranks first in extent of manufactures and commerce. Belfast is the great seat of the linen manufacture of Ireland, every branch of which is largely carried on; its cotton manufactures are also highly flourishing, and it has extensive iron-foundries and other works.

Belfast is the seat of one of the Queen's colleges, opened in 1849, and has other educational institutions of importance.

Lisburn, also a flourishing seat of the linen manufacture, is on the left bank of the Lagan, 7 miles S.W. of Belfast. *Carrickfergus*, until recently the county-town of Antrim, lies on the N. side of Belfast Lough. Its ancient castle, of Anglo-Norman origin, dating from near the close of the 12th century, and standing on a rock which projects into the sea at the south-eastern extremity of the town, has been the scene of numerous important events in Irish annals. Carrickfergus has the privileges of a county of itself. *Larne*, on the coast, at the entrance of Lough Larne, is 9 miles N. of Carrickfergus.

The towns of Antrim, Ballymena, and Ballymoney, lie towards the western side of the county. *Antrim* is on the north-eastern shore of Lough Neagh, at the outlet of the Six Mile river. *Ballymena* is 10 miles to the northward of Lough Neagh, and 2 miles distant from the

left bank of the river Main. *Ballymoney*, 18 miles farther distant, in the direction of N.N.W., is within the valley of the Bann, on a small affluent of that river.

4. LONDONDERRY, a maritime county, has an area of 518,595 acres, or 810 square miles. It extends along the coast upon the north side of the island from Port Rush, about 5 miles to the east of the mouth of the river Bann, to Magilligan Point, at the entrance of Lough Foyle, and includes the eastern and southern shore of the lough, with the mouth of the river Foyle. Magilligan Point, which is low, is the termination of an extensive and triangular-shaped tract of sand. On the western side Lough Foyle is navigable: upon the east and south its bed consists of a vast expanse of sand, which becomes dry at low water. There is a deep water channel along its western shore, leading up to the mouth of the Foyle, and by means of which ships of 800 tons burthen reach the quays of Londonderry.

The eastern boundary of the county is marked chiefly by the course of the river Bann: a small portion, however, stretches beyond that river to the eastward, as a similar tract does to the westward of the Foyle, on the opposite side of the county. High mountains in part divide Londonderry from Tyrone, on the south.

The larger part of Londonderry has a surface diversified by mountains, which in several places rise to considerable height. The greatest extent of level land is in the south-east, towards the shore of Lough Neagh, which bounds the county in that direction.

The mountains of Londonderry include a continuous range, lying in the direction of north and south, parallel to the course of the Bann river, and within the eastern division of the county; and also a range which lies east and west, towards, and partly upon, the southern border of the county, whence they stretch westward into the county of Tyrone. Besides these continuous ranges, there are detached groups, which fill great part of the western division of the county, towards Lough Foyle.

The range running north and south, to the west of the Bann valley, forms the western termination of the trap district of Antrim. It slopes gently towards the valley of the Bann, on the east, but descends abruptly upon the west, towards the course of the river Roe, along which side the secondary strata that underlie the trap are exposed in section, towards the valley below. The highest points in this range are — Benevenagh (in the extreme north, near the E. shore of Lough Foyle), 1,260 ft.; Keady, 1,101 ft.; Donald's Hill, 1,315 ft.; Benbradagh, 1,490 ft.; Carntogher, 1,521 ft.; and, at its southern extremity, the White Mountain, 1,996 ft. About 10 miles to the

southward of the last-named hill, and divided from it by the valley of the Moyola river, is Slieve Gallion, forming part of a detached group, 1,730 ft. high.

The chain running east and west, on the border of Londonderry and Tyrone, is known as the Sperrin Mountain: its highest summit, Sawell (on the border-line of the counties), is 2,236 feet high. Some other points in the range are of little less elevation. The hilly tract farther to the northward, towards the S. shore of Lough Foyle, includes Legavannon, 1,289 feet high.

The chief rivers of Londonderry are the Bann and the Foyle; next in importance are the Faughan, the Roe, and the Moyola rivers. The Bann, for the last 10 miles of its course, is wholly within the county; thence upward to its issue from Lough Neagh it is a border stream. Vessels of 200 tons can ascend to Coleraine, about 4 miles above its mouth.* The Foyle has the last 10 miles of its course within the county: it is navigable for ships of 800 tons up to Londonderry, and for vessels of considerable size for eight miles farther up. The Faughan and Roe rivers both enter Lough Foyle — the former on the south, immediately east of the mouth of the Foyle, the latter on its eastern side. The Moyola flows into the north-western arm of Lough Neagh.

The *geological* features of Londonderry are highly varied. Considerably more than a third part of the county falls within the trap field which covers so large a part of Antrim, and with which the trap of Londonderry is continuous. The western boundary of the trap is marked by the chain of high ground which divides the valleys of the Roe and Bann rivers: it extends across the entire breadth of the county, in its eastern division, from the coast of the Atlantic to the north-western shore of Lough Neagh. The trap is succeeded to the west by underlying secondary strata, which for the most part exhibit, in successive order, chalk, new red sandstone, limestone, and yellow sandstone, the two last belonging to the carboniferous group. The regular succession of these strata is not, however, maintained throughout, one or more members of the series being in some places wanting. The secondary strata occupy chiefly the valley of the river Roe. Nearly all the remainder of the county consists of mica-slate, with occasional masses of primitive or metamorphic limestone. This last rock is met with of crystalline texture, and variously

* Immediately below its issue from Lough Neagh, the Bann passes through Lough Beg — i.e. the *little* lough, by comparison with the greater body of water. This is an instance of the correlation of terms which is frequent in Celtic geography, especially in the instances of rivers and mountains.

associated with veins of coloured spar, quartz, coloured chlorite, and hornblende. Sienite and greenstone occur in detached masses within the south-eastern district of the county.

Londonderry is chiefly a manufacturing county, the various branches of the linen trade constituting the staple of its industry. Bleaching-greens are numerous along the course of the Roe and Faughan rivers. A large area of the land is under the plough, oats being by much the most considerable crop. The soil, not naturally fertile, has been much improved by careful cultivation, especially within the lower grounds in the neighbourhood of Lough Neagh, the valleys of the Roe and Faughan, and towards the shores of Lough Foyle.

The county of Londonderry is divided into 4 baronies. Its only considerable towns are :—

	Pop.		Pop.		Pop.
LONDONDERRY	20,153	| COLERAINE .	5,628	| NEWTOWN-LIMA-	
				VADY . .	2,734

Londonderry and Coleraine are parliamentary boroughs, returning one member each. The county returns two members. Londonderry is also a city, and the capital of the county.

Londonderry stands chiefly on the left bank of the river Foyle, about four miles above its outlet, at the base and on the sloping sides of a hill which rises to upwards of a hundred feet above the stream, and the summit of which is crowned by the cathedral—for the most part a modern structure. A bridge across the Foyle connects the larger portion of the town with its suburb on the eastern side of the river.

The site of Londonderry had been early occupied by a monastery (said to have been founded by St. Columba in the 6th century), in the vicinity of which a town and fortress grew up. But these underwent repeated destruction during the wars attendant on the earlier period of English dominion in Ireland, and the present city was founded by the London companies in 1613, at the time of the extensive grants of land—comprehending the whole of the present county, which then first took the designation of Londonderry—made by King James I. to the corporate bodies of the metropolis.* The

* The lands granted by James I. to the corporation of London—on condition of pecuniary aid furnished by them in planting the forfeited lands in this part of Ireland with Scotch and English colonists—were placed under the administration of a body chosen by the Common Council, and afterwards (in 1619) incorporated into a body known as the Irish Society, which still exists. Twelve of the London companies

walls of the city, as then erected, are still standing. Londonderry is chiefly famous in Irish history in connection with its siege by the army of James II. in 1689, when almost the last extremities of famine were heroically endured by its Protestant defenders. The breaking of the boom which the besiegers had placed across the mouth of the Foyle, by one of a relieving fleet of ships, laden with provisions, occasioned the final raising of the siege, after it had lasted a hundred and five days.*

Coleraine, in the eastern part of the county, stands on either bank of the Bann, four miles above the sea. It has considerable maritime trade, but ships of large size discharge and load at Port Rush, on the north coast, which forms the harbour of Coleraine, and is connected with it by railway. Coleraine, like Londonderry, stands on a site which was early occupied, but the present town was founded by the Irish Society of London, in 1613. *Newtown-Limavady*, a small town, engaged in the linen manufacture, is situated on the right bank of the river Roe, about 7 miles above its mouth.

5. **DONEGAL**, a maritime county, the largest in Ulster, has an area of 1,193,443 acres, or 1,865 square miles. It forms the north-western corner of the island, and includes a very extensive and irregular coast-line, nearly every part of which is deeply indented by the sea. Lough Foyle, on the north-east, forms part of the division between the counties of Donegal and Londonderry, its western shores belonging to the former. Donegal Bay, an extensive arm of the Atlantic, limits the county to the south-west.

The line of coast between Lough Foyle and Donegal Bay includes Lough Swilly, Mulroy Bay, Sheep Haven, Gweebarra Bay, Loughrosmore and Loughrosbeg Bays, with numerous inlets of less magnitude. Lough Swilly, the largest of these, extends inland for upwards of 25 miles, and forms a secure harbour, with deep water nearly throughout.

Of the numerous headlands that belong to the coast of Donegal, the principal are — Inishowen Head, at the entrance of Lough Foyle;

had grants of land within the county; only three of them — the Drapers, Mercers, and Grocers — now retain the direct administration of these lands in their own keeping. A vast improvement in the aspect of the district speedily ensued from the industry of the colonists who were introduced; many of the native Irish, who at first retired into the adjacent mountain wildernesses, gradually returned, and mingled with the new comers. Prior to this distribution of the land, this part of Ireland was simply known as Derry, by which name it is still commonly referred to by the inhabitants themselves.

* See details in Macaulay: *Hist. of Eng.*, chap. xii.

Malin Head, the most northerly point of the island; Dunaff Head and Fanad Point, on either side of the entrance to Lough Swilly; Horn Head, west of Sheep Haven; Bloody Foreland, the extreme north-west point of the county; and Teelin (or Malin Beg) Head, upon the north side of Donegal Bay.

The greater part of Donegal is mountainous. Many districts of the county equal in wild and rugged variety of scenery any part of the British Islands. The only portions of Donegal that include plains of any considerable extent are within its eastern half, towards the head of Lough Swilly and the valley of the Foyle, together with the tract lying adjacent to the upper part of Donegal Bay. All the rest of the county, including the north, west, and south-west, is covered by lofty mountains, which rise with a rapid ascent above the basin of the Foyle. The western slope of the mountain-region, on the side of the Atlantic, especially within the tract that extends from Bloody Foreland to Donegal Bay, is marked towards its base by desolate tracts of bog and moorland, interspersed with a great number of shallow lakes or pools. The prevailing westerly winds of this coast throw up vast quantities of sand, which accumulates at the openings of the valleys, and has in some instances completely altered the superficial features of the land, burying entire dwelling-places beneath it.*

The highest portions of the mountains of Donegal form parallel ranges, lying in the direction of N.E. and S.W., and divided by deep and narrow valleys. Amongst the loftiest summits are Errigal, 2,462 ft.; Muckish, 2,190 ft.; Dooish, 2,143 ft.; Glendowan, 1,770 ft.; and Bluestack, 2,213 ft. All of these, with the exception of the last-named, are within the north-western portion of the county. Bluestack, which is farther to the southward (8 miles N. by E. of the town of Donegal, forms part of a prolonged range of high ground which runs nearly parallel to the shores of Donegal Bay, and the eastern portion of which is called the Barnesmore Mountains. Barnesmore Gap, a deep ravine which crosses these mountains, affords the only means of communication between the country at the head of Donegal Bay and the valley of the river Finn, which belongs to the basin of the Foyle.

The coast on the north side of Donegal Bay is marked nearly throughout by high cliffs. These reach in the nearly precipitous declivities of Slieve League, a short distance east of Teelin or Malin

* The isthmus which lies between Mulroy Bay and Sheep Haven, connecting the peninsula tract of Rosguill with the mainland, is entirely covered by the sands that have accumulated within the last century. Rospenna House, a nobleman's mansion which stood on the isthmus, has been completely buried by the sand, and, of course, long since deserted.

Beg Head, the height of 1,964 feet. To the northward of Teelin Head, as far as the entrance of Loughrosmore Bay, the coast is also high and rocky.

The extensive peninsula included between Lough Foyle and Swilly, in the extreme north of Donegal, is chiefly covered by mountains, the highest of which, Slieve Snaght, is 2,019 feet high. The eastward slope of these mountains, towards Lough Foyle, overlooks a fertile and cultivated tract, of narrow proportions, which borders the shore of the lough. The northern coast of the peninsula, fronting the open ocean, is marked by high and precipitous cliffs. Its western side, along Lough Swilly, is for the most part low, and exposed to the sand-blast by which the westerly gales are accompanied.

Numerous islands adjoin the coasts of Donegal. The two most considerable are Tory Island, which lies nearly 7 miles off the mainland, and Aran Island, which is less than 2 miles distant. Tory Island reaches only from 50 to 60 feet above the sea-level, and is exposed to the full severity of the Atlantic storms. The highest point of Aran Island is 754 feet above the sea.

The principal rivers of Donegal are the Foyle, with its affluents, the Deelee and the Finn. The Finn issues from Lough Finn, at an elevation of 436 feet above the sea, and joins the Foyle at the town of Lifford. The Deelee unites with the Foyle a short distance below.

The Swilly and the Lannan, both of which enter Lough Swilly, and the Owencarrow river, which flows into Sheep Haven, are among the smaller streams which drain the northwardly portion of the mountain-region: the rivers Gweedore, Gweebarra, Owenea, and Eask, carry off part of the waters from its western and southern slopes. The lower portion of the river Erne, which issues from Lough Erne, is within the extreme south of Donegal.

Numerous lakes lie within the deep glens by which the mountain-region of Donegal is divided. Amongst them are Loughs Gartan, Veagh, and Greenan, Salt Lough, Lough Glen, Lough Finn, Lough Eask, Lough Derg, and many others. Lough Derg (which is within the southern part of the county, close to the border of Tyrone) belongs to the Foyle basin, its surplus waters being carried off by the river Derg, an affluent of the Foyle. An island in Lough Derg forms the place of pilgrimage known as St. Patrick's purgatory.*

The *geological* features of Donegal are very varied. The county is composed almost entirely of rocks belonging to the primitive and transition periods. The former, which embrace the most north-westerly portion of Donegal (including about half the Inishowen

* See *ante*, p. 595.

peninsula, between Loughs Swilly and Foyle), consist of granite and mica-slate, with quartz, and granular limestone of many varieties. Beautifully coloured marbles and building stones occur in many parts of the mountain region within the primary area — amongst them white statuary marble, of the finest description, at Dunlewy, near the mountain of Errigal. Nearly all the rest of Donegal, comprehending the entire basin of the Foyle and the tract which adjoins Donegal Bay upon the north, consists of mica-slate, with metamorphic limestone, of crystalline texture, occurring in veins and detached masses. A limited area in the extreme south, adjoining the river Erne and the head of Donegal Bay, is occupied by the limestone strata of the central plain. Numerous rare and valuable minerals occur amongst the primitive rocks of the higher mountain region and elsewhere, among them porcelain clay, potters' clay, copper pyrites, with lead and other ores.

The industry of Donegal, in the eastern and more level portion of the county, is chiefly in connection with the linen manufacture. The various branches of this, and especially bleaching, are carried on within the basin of the Foyle, and also in the neighbourhood of Ballyshannon, on the western side of the county. Agriculture is most advanced within the same tracts, oats being the prevailing crop. But the larger part of the county consists of mountain and moorland. The fisheries are pursued to a considerable extent within Lough Foyle, and round parts of the coast — turbot, cod, soles, and plaice, being taken in great numbers.

Donegal is divided into 6 baronies. The only places within it that contain so many as 2,000 inhabitants are: —

	Pop.		Pop.
BALLYSHANNON . . .	3,183	| LETTERKENNY . . .	2,160

The county of Donegal returns two members to the imperial parliament.

The county-town is *Lifford*, a small place situated on the left bank of the Foyle, which is formed by the junction of the Mourne and Finn rivers, immediately above. *Letterkenny*, at the head of Lough Swilly, is 13 miles to the N.W. of Lifford, and 18 miles distant from Londonderry, in the direction of W.S.W. *Ballyshannon* lies on the opposite side of the county, upon the bank of the river Erne, immediately above its outlet in Donegal Bay. The town of *Donegal* (1,516 inhab.) lies at the head of the bay, 11 miles N.E. of Ballyshannon and at the outlet of the river Eask.

6. TYRONE, an inland county, has an area of 806,640 acres, or

1,260 square miles. Its outline is very irregular. From the border of Donegal, Tyrone stretches east to the shore of Lough Neagh. The rivers Ballinderry and Blackwater, both of which enter Lough Neagh, form portions of the county boundary in that direction. The border-line between Tyrone and Londonderry is marked in part by the range of the Sperrin Mountains, of which Sawell is the highest point. There are also high mountains upon portions of the Tyrone and Donegal border. Towards the south, on the side of Armagh, Monaghan, and Fermanagh, the country is more open.

Tyrone has considerable diversity of surface. Its more level portions are in the east and the centre: its highest grounds in the north and west. With the exception of a very small tract in the south-west, the whole county is divided between the basins of the river Foyle and of Lough Neagh. The Foyle basin includes the central, northern, and north-western portions of the county: its eastward slopes are directed towards Lough Neagh.

A range of high ground which crosses the eastern half of Tyrone, in the general direction of S.W. and N.E., divides the Foyle and the Lough Neagh basins, and marks the watershed between the two. A few points within this range reach upwards of a thousand feet in height, as Shantavny (near the town of Ballygawley), 1,036 ft.; Beleeenamore, 1,261 ft.; and the Fir Mountain, 1,186 ft. The two latter lie close to the Londonderry border, adjacent to the connected mountain of Slieve Gallion, within that county. All that portion of Tyrone which lies east and south of this dividing range slopes towards the basin of Lough Neagh, and expands into fine plains as it approaches the valley of the Blackwater and the shores of the lough. The tract lying to the west of the range includes an extensive plain, within which the town of Omagh, nearly in the centre of the county, is situated. The plain of Omagh is bordered on the west and north by mountains of superior height to those that belong to the line of watershed above described. Among the most conspicuous of these are Sawell, 2,236 ft., on the border-line of Tyrone and Londonderry, and adjacent to it on the west, but within Tyrone, Mullaghelagher or Straw Mountain, 2,085 ft., and Mullaghearb, 1,890 ft. Farther to the south, on the right of the Strule valley, is Mullaghearn, 1,778 ft. The hills named Bessy Bell, 1,386 ft., and Mary Gray, 826 ft., are upon opposite sides of the Strule, lower down its course, in the immediate vicinity of Newtown Stewart. Croagh Mountain, on the extreme western border of Tyrone, is 1,260 ft. high.

The chief rivers of Tyrone are the Mourne, Strule, and Derg, belonging to the Foyle basin; with the Blackwater and Ballinderry, both of which discharge into Lough Neagh. The Strule and the Mourne rivers form a portion of the main stream of the Foyle. The

Strule is formed at Omagh by the union of the Cumowen and Drumragh rivers: it receives the Derg on its left bank, about 2 miles below the town of Newtown Stewart, and thence takes the name of Mourne down to the junction of the Finn (at the adjacent towns of Strabane and Lifford, on the Donegal border), from which point downwards it assumes the name of Foyle.

Geology.—The highest portions of Tyrone, in the north and north-west, exhibit the mica-slate, interspersed with primitive limestone, of the Londonderry and Donegal Mountains, with which they are continuous. The rest of the county consists of secondary strata, in which old red sandstone and the limestones of the carboniferous period predominate; succeeded, towards the shores of Lough Neagh, by tertiary beds, probably of lacustrine origin. Masses of tabular trap, like that of Antrim, occasionally overlie the sedimentary rocks.

The old red sandstone extends over a larger area than any other of the sedimentary strata found within Tyrone, including the chief part of the plain of Omagh, with the adjacent hills to the east and south. The yellow sandstone of the carboniferous series intervenes, to the north of the town of Omagh, between the old red strata and the mica-slate area. The limestones which occupy most of the eastern division of the county belong partly to the lower group of the limestone series (that of the great central plain of the island), and partly of the middle or calp series. Adjacent to these, in the immediate neighbourhood of the town of Dungannon, is a small coal-field, within which several pits are profitably worked. The coal of the Dungannon field is of good quality, and the beds of considerable thickness. Slate is quarried within the county, and building-stone is obtained. There are limestone quarries in the neighbourhood of Stewartstown and elsewhere. Irregular beds of lignite, which is partially used as fuel, occur within the tertiary area.

The industry of Tyrone is chiefly agricultural. The linen manufacture is pursued at numerous places within the county, as in Dungannon, Moy, Stewartstown, Cookstown, and other towns within its eastern portion; also at Omagh, Newtown Stewart, Strabane, and elsewhere, within its central and northerly divisions.

Tyrone is divided into 4 baronies. Its principal towns are:—

	Pop.		Pop.		Pop.
OMAGH.	3,448	STRABANE	4,146	COOKSTOWN	3,513
		DUNGANNON.	3,886		

Dungannon is a parliamentary borough, returning one member. The county returns two members.

Omagh, the county-town, stands in the centre of the county, at the junction of the Camowen and Drumragh rivers, which unite to

form the Strule. *Newtown Stewart*, a small town, 9 miles N.N.W. of Omagh, is on the left bank of the Strule. *Strabane*, the most considerable town in the county, is between 8 and 9 miles farther to the northward. Strabane stands on the right bank of the Mourne, immediately above its junction with the Finn, and in close proximity to Lifford, the county-town of Donegal.

Dungannon, in the eastern plain of Tyrone (between 7 and 8 miles distant from the western shore of Lough Neagh), is situated in the midst of a fertile and well-cultivated district. The coal-field is to the north and north-eastward of the town, the principal collieries being at Drumglass and Coal Island (the latter 4 miles N.E. of Dungannon). A canal connects Coal Island with the Blackwater river. *Cookstown*, 9 miles N. of Dungannon, is on the Ballinderry river.

7. FERMANAGH, an inland county, has an area of 457,195 acres, or 714 square miles. Its boundary-line, which is irregular in direction, coincides for the most part with the high grounds that enclose the basin of Lough Erne, to which nearly the whole county belongs.

Fermanagh has a highly diversified surface. The whole county, with the exception of a small district in the west, is within the basin of the river Erne. The two extensive loughs into which that river expands — Upper and Lower Lough Erne — are both comprised within its limits. These loughs, with the connecting river, occupy the central division of the county, throughout its length. The tract of country which immediately borders the loughs to the north and east exhibits for the most part only gentle undulations of surface, rising at a greater distance into hills of considerable altitude, which are continuous with those of the adjoining county of Tyrone. The hills make near approach to the channel of the river Erne in the neighbourhood of the town of Enniskillen, between the two loughs, their elevation being there little less than a thousand feet above the sea. Farther to the south-eastward, towards the border of Monaghan, a greater altitude is reached; Carnmore, 8 miles east of the town of Lisnakea, is 1,034 ft. high, and some points on the eastern border-line of the county are still more elevated.

That portion of Fermanagh which lies west and south of the Erne river and loughs is more generally mountainous than its north-easterly division. The hills are divided from the western shore of the upper lough by a narrow belt of level or undulating land; on the border-line of Fermanagh and Cavan they rise into elevations which vary from one to two thousand feet, and in one case exceed two thousand feet. The high grounds along this portion of the

county border form the division between the basins of the rivers Erne and Shannon. The highest point, Cuilcagh, is 2,188 ft. above the sea. They descend with a rapid (and, in some parts, precipitous) slope to the northward, towards the basin of the Erne. Farther to the north and west, all that portion of Fermanagh which lies between Lough Macnean and Lower Lough Erne is covered by mountains, which come close up to the shore of the last-named lake, and in some places descend steeply into its waters. Among the most conspicuous heights in this part of the county are Belmore, 1,312 ft. (6 miles W. by S. of Enniskillen); and Shean North, 1,033 ft., close beside the south shore of Lower Lough Erne.

The Erne is the most considerable river of Fermanagh, and, with its loughs, waters nearly the whole county. The Drummany river falls into Upper Lough Erne on its right or eastern bank: the Woodford, Cladagh, and Arney rivers enter the same lough upon its western side. The Arney issues from Lough Macnean, which consists (like Lough Erne) of two portions—an upper and lower lough. Upper Lough Macnean is on the county border; the lower lough is entirely within Fermanagh. The lower lough receives the Ballicassidy river upon the northern side of its basin. The Silles river joins the Erne on its left bank, between the two loughs. The river Erne issues from the lower extremity of Lough Erne, and flows into Donegal Bay, passing the town of Ballyshannon on its way. Lower and Upper Lough Erne, with the connecting river Erne, are navigable for vessels of moderate tonnage: the Ulster Canal, which joins Upper Lough Erne, near its head, extends the navigation to the eastward, connecting it with Lough Neagh and the eastward portions of Ulster.

The *geology* of Fermanagh exhibits principally alternate limestone and sandstone strata—the former belonging in part to the lower limestone of the central plain, and in part to the calp or middle series. The shores of Upper Lough Erne and the river Erne are composed almost throughout of limestone: the lower lake is bordered to the eastward by strata of old red sandstone. The calp beds which lie to the eastward of the upper lake are surmounted, throughout a considerable area, by strata of yellow sandstone and conglomerate, which furnish building-stone of excellent quality. The lower sandstones of the millstone-grit group appear above the hills which adjoin the opposite side of the lake.

Fermanagh is altogether an agricultural county. Large portions of its surface are uncultivated, consisting either of mountain or bog, or of both combined. The dairy-husbandry is extensive, and furnishes (with oats) the chief surplus produce of the county.

Fermanagh is divided into 8 baronies. Its only considerable town

is **ENNISKILLEN** (pop. 5,655), which is a parliamentary borough, returning one member. The county returns two members.

Enniskillen, the county-town of Fermanagh, is situated principally upon an island in the winding channel of the river Erne, two bridges connecting the main portion of the town with a suburb upon either bank. Enniskillen owes its origin to the Protestant settlers introduced into Ulster during the reign of James I. It was importantly connected with the public events of 1689, when its inhabitants opposed a spirited resistance to the arms of James II., and gained an important victory over a detachment of James's army at the little town (now a mere village) of Newton Butler, situated near the upper extremity of Lough Erne and the southern limit of the county.*

8. **MONAGHAN**, an inland county, has an area of 319,747 acres, or 499 square miles. Part of its border-line is formed, to the northward, by the Blackwater river, which flows into Lough Neagh: in other directions it coincides for short distances with some of the smaller streams that belong respectively to the basin of the Erne, or to the Irish Sea.

Nearly the whole surface of Monaghan is moderately elevated, but the hills only reach any considerable height towards the north-eastern and north-western border of the county, on the sides, respectively, of Armagh, Tyrone, and Fermanagh. Mullyash, nearly the border of Armagh (4 miles N.E. of the town of Castleblayney), is 1,034 feet high: the highest point of the Slieve Beagh range, on the Fermanagh border, reaches 1,255 feet. With the exception of Mullyash, none of the hills that are within the county reach so great a height as a thousand feet, though one or two points are upwards of 800 feet. The general surface of Monaghan exhibits a succession of undulating slopes. The most level portion is that which slopes towards the valley of the Blackwater and the basin of Lough Neagh, in the north and north-east, and within which the town of Monaghan is situated. There are tracts of bog in all parts of the county.

Monaghan has no considerable rivers: several of the streams that have their origin within its border attain, however, some magnitude in their farther courses through the counties by which Monaghan is enclosed. The chief water-communication is afforded by the Ulster Canal, which connects the basins of the Erne and Lough Neagh, traversing Monaghan through the greater part of its course.

* See Macaulay: Hist. of Eng., chap. xii. The victory of Newton Butler was gained on the third day after the relief of Londonderry.

The Blackwater, an affluent of Lough Neagh, forms part of the Monaghan and Tyrone border, and receives several small tributaries from within the county. The Finn, which joins the Erne basin (flowing into the south-eastern extremity of Upper Lough Erne), has the larger part of its course within Monaghan. The Fane and the Glyde rivers, both of which flow south-eastwardly, through Louth, and enter Dundalk Bay, rise within the county. Monaghan has numerous loughs: the largest is Lough Muckno, near Castleblayney, which is 3 miles long by a mile in extreme width. Loughs Inner, Emy, Eglish, and Leesborough, are amongst the many of smaller size.

Geology.—That portion of the county which lies to the north and west of a line drawn through the towns of Clones and Monaghan is occupied chiefly by the limestone of the central plain of Ireland. This is succeeded, to the northward, by the overlying limestone of the calp or middle series, followed by the sandstone conglomerate of the same group. Upon the opposite side—that is, to the south and east—the limestone is bordered by a narrow belt of carboniferous slate. This last stretches entirely across the county, from N.E. to S.W., and divides the limestone beds from the clay-slate or greywacke area (Silurian), to which nearly all the remainder of Monaghan belongs. Limestone reappears in the extreme south-east, between the Louth and Cavan borders. Excellent freestone is worked for building purposes in several parts of the county.

The industry of Monaghan is principally agricultural. This is especially the case in its more level portion, to the northward, where the land is chiefly under tillage, and in the extreme south-east, towards the Louth border. Flax constitutes an important crop. The pastures are extensive.

Monaghan is divided into 5 baronies. Its principal towns are:—

	Pop.			Pop.		Pop.
MONAGHAN .	3,797	|	CLONES .	. 2,388	|	Carrickma- cross . 2,045

The county of Monaghan returns two members to the imperial parliament.

Monaghan, the county-town, is situated on the line of the Ulster Canal, and near one of the small feeders of the Blackwater river. It has some share in the linen manufacture, and extensive markets for agricultural produce and live stock. *Clones* is 11 miles to the S.W. of Monaghan, and close beside the Fermanagh border. *Carrickmacross* is in the extreme south of the county, towards Louth, and 13 miles distant (in the direction of W. by S.) from the town of Dundalk. *Castleblayney* (pop. 1,820), 10 miles N. of Carrickmacross,

lies beside the western shore of Lough Muckno, in the midst of a hilly and picturesque district.

9. CAVAN, an inland county, has an area of 477,360 acres, or 746 square miles. It is the most southwardly portion of Ulster, and borders upon two of the other provinces of Ireland — the counties of Meath, Westmeath, and Longford, which belong to Leinster, adjoining its southern limits; while the county of Leitrim, which forms part of Connaught, adjoins its western border. The outline of the county is very irregular, its breadth becoming considerably diminished towards its western extremity, which projects in a narrow strip between Fermanagh and Leitrim.

The general surface of Cavan is of only moderate elevation, its larger portion falling within the great central plain of the island. The course of the river Erne, which crosses Cavan from south to north, above Lough Erne, lies through this plain. The tract which borders the Erne upon either side is generally undulating, with some detached eminences which attain a moderate elevation. Among these are Slieve Glagh, 1,050 feet, a short distance S.E. of the town of Cavan, and Bruce Hill, 850 feet, near the western bank of the river. The surface becomes more hilly farther east, towards the Meath border, where Loughanleagh (between the small towns of Bailieborough and Kingscourt) is 1,116 feet, and several other points vary from 600 to 800 feet and upwards.

The highest portions of Cavan, however, are in the extreme west, towards the source of the Shannon, which is within its limits. The surface assumes there a mountainous character. The highest summit, Cuileagh, 2,188 feet, is on the border-line of Fermanagh, and the adjoining hill of Tiltinbane (also on the border-line of the two counties) is 1,949 feet. Benbrack, a short distance S. of Cuileagh, and entirely within Cavan, is 1,648 feet high. Slievenakilla, 1,703 feet, is on the border of Cavan and Leitrim. These elevated summits enclose between them the head-waters of the Shannon, which however passes out of the county a short distance below its source.

The chief river of Cavan is the Erne, which is formed by several small streams that rise within the county, and issues under that name from Lough Gowna, on its southern border. The Erne thence flows northward, through Lough Oughter, to the border of Fermanagh, where it expands into Lough Erne. The Erne receives, in its course through Cavan, the Annaghlee river on its right bank, and is joined on its left bank, upon the Fermanagh border, by the Woodford river. Lough Sheelin, on the border of Cavan and Westmeath.

belongs to the basin of the Shannon, with which it is connected by the Inny river. Lough Ramor, farther east, receives the drainage of a portion of the eastward division of Cavan, and discharges its overflow into the Boyne, by means of the Blackwater river.* By much the larger part of the county, however, belongs to the basin of the Erne. None of the streams within Cavan are navigable; the Ulster Canal, which connects the Erne with Lough Neagh, supplies the county with its chief means of water communication.

The larger part of Cavan falls, *geologically*, within the clay-slate area. This includes, with trifling exceptions, all that portion of the county which is to the eastward of the river Erne, as well as part of the tract lying west of that river. The clay-slate strata are succeeded on the north-west by the yellow sandstone and greyish slates which form the lowest members of the carboniferous series, and the latter, again, by the various limestones of the same series, which, with masses of millstone grit that compose the higher grounds in the extreme west, constitute the remainder of the county. The mountain tract which forms the western portion of Cavan is rich in minerals. Both iron and coal have been worked in this locality; lead and silver ores also occur. Lead has also been worked in the eastern part of the county. Coarse manganese, and ochres, with excellent marl, fullers' earth, and potters' clay, occur abundantly in several localities.

The industry of Cavan, however, is chiefly agricultural. The extent of cultivated land is greatest within the tract watered by the Erne, and in the more eastward portions of the county. The linen manufacture is very generally combined to some extent with the pursuit of field labour on the part of the small farmers and peasantry, as is the case in most parts of Ulster.

Cavan is divided into 8 baronies. The county returns two members to the imperial parliament. The only place within it containing so many as 2,000 inhabitants is CAVAN, the county-town, which has a population of 3,107.

The town of *Cavan* lies in the most central part of the county, a few miles east of Lough Oughter and within the valley of the Erne river. The towns next in point of population are *Belturbet* (between 7 and 8 miles N.W. of Cavan), situated on the Erne, pop. 1,772; and *Cootchill*, on the north-eastern border of the county, pop. 1,992.

* See *ante*, pp. 612 and 617.

CONNAUGHT.

1. LEITRIM has an area of 392,363 acres, or 613 square miles. It is for the most part an inland county, but touches the sea on its extreme northern limit, marked by the waters of Donegal Bay. Its coast-line, however, measures hardly more than two miles. The outline of the county is extremely irregular. Its breadth nowhere exceeds twenty miles, and is narrowed in one part to less than a third of that extent; in the direction of its length, Leitrim stretches inland from the shore of Donegal Bay for a distance of nearly fifty miles, between the counties of Fermanagh and Cavan on the one side, and those of Sligo and Roscommon on the other. The course of the river Shannon forms part of the western boundary, on the side of Roscommon.

Leitrim has a diversified surface. Lough Allen, which belongs to the course of the Shannon, lies chiefly within the narrowest portion of the county, and nearly divides it into two parts. This lake is enclosed, on all sides but the south, by mountains ranging from fourteen hundred to nearly two thousand feet in elevation. Slieve Anierin, to the east of the lake, is 1,922 feet, and Bencroy, 1,704 feet. The Munterkenny group, which adjoins its western shore, are 1,377 feet: the Lackagh Mountains, farther northward, reach 1,448 feet.

The southern division of Leitrim—that is, the tract extending from the neighbourhood of Lough Allen and its enclosing hills to the south-eastern border-line of the county—belongs to the great central plain of Ireland, and, though nowhere perfectly level, exhibits few elevations that exceed 300 feet above the sea. The northern half of the county, between Lough Allen and the shore of Donegal Bay, is a more elevated tract, and is for the most part covered with broad and flat-topped hills, the sides of which present in general steep escarpments. Among these elevations, besides the Lackagh Mountains, to the northward of Lough Allen, are the hills of Benbo, 1,365 feet, and Doocy, 1,511 feet (separated by the valley of the Bonet river); with the Dartree Mountains, near the south shore of Lough Melvin, the highest summit of which exceeds 1,700 feet. The mountains reach to within about three miles of the sea.

The chief river of Leitrim is the Shannon, which enters the northern extremity of Lough Allen from the adjoining county of Cavan, and issues from the lower end of the lake as a considerable stream. The Diffagher river, which enters Lough Allen at its north-western corner, brings to it the waters of Belhavel lough. The rivers Eslin and Rinn, both of them connected with several small lakes, water the most southwardly portion of the county, and join the Shannon on its left bank. Part of the south-eastwardly division of

Leitrim, however, belongs to the basin of Lough Erne, and has its waters carried off by the Yellow river, which flows through Lough Garadice (in the easternmost portion of the county, near the border of Cavan); and the greater part of its northern division is drained by streams that flow into Donegal and Sligo Bays. Of these latter the principal is the Bonet river, which flows with a semicircular course into Lough Gill.

Leitrim has a great number of lakes, either within its limits or on its border-line. The most considerable are loughs Allen, Melvin, and Maenean, the two latter of which lie on the border of Fermanagh, and are partly within that county. Lough Melvin, which is 8 miles long by 2 broad, is connected with Donegal Bay by the Drowes river, which issues from its lower extremity. Lough Maenean is united to the upper Lough Erne by the Arney river. Among the numerous smaller loughs are Glenade, Belhavel, Garadice, St. John's, Scur, and Rinn — the two first-named within that portion of the county which is north and west of Lough Allen, the others within its more southwardly division.

The *geology* of Leitrim offers much variety. Lough Allen lies within a basin composed of millstone grit, with workable beds of coal belonging to the higher elevations and their enclosed valleys on either side. Iron ore of excellent quality abounds in the same localities. Lead and copper ores, with manganese and many other valuable minerals, are also found within this portion of the county and the adjacent hilly regions to the north and north-west. Elsewhere, the prevailing strata are limestones, belonging to the middle and lower series of the carboniferous group: these pass, in the extreme south, into the carboniferous slate and yellow sandstones of the allied series. A belt of primary rocks, gneiss and mica-slate, crosses the northern division of the county, into which it is prolonged from the adjoining county of Sligo. The mountain Benbo, west of the town of Manor Hamilton, belongs to this belt.

Leitrim has a higher average of population than most parts of Connaught. It is, however, almost exclusively an agricultural county, coarse woollen and linen goods for domestic use being the only manufactures. Grazing is extensively pursued within the southern division of the county.

Leitrim is divided into five baronies. The county returns two members to the imperial parliament. Its only town of importance is —

CARRICK-ON-SHANNON . . . pop. 1,503.

Carrick stands on the left bank of the Shannon, upon the line of high road from Dublin to Sligo. Its trade is chiefly carried on by means of the river. The other places within Leitrim that rank as

towns — Manor Hamilton, Mohill, Ballinamore, Drumshanbo, &c.— are in point of size mere villages, none of them having so many as fifteen hundred inhabitants.

2. SLIGO, a maritime county, has an area of 461,753 acres, or 721 square miles. Its coast-line, which is of considerable extent, stretches along part of the southern shore of Donegal Bay, and includes Sligo Bay, together with the eastern shore of Killala Bay. Sligo Bay is divided by projecting portions of the coast into three smaller bays, the middle one of which leads up to the town of Sligo: the more northerly of the three forms Drumcliff Bay, and the more southwardly, Ballysadare Bay. The deep water channel of Sligo Bay is navigable up to the town of Sligo for vessels drawing 13 feet. Except in a few localities, the coast-line of the county is low, and fronted by dangerous rocks: the shores of Sligo Bay, however, are lined by extensive sands.

Sligo has extensive tracts of level ground, but portions of the county are hilly. The plain country is of greater extent than the hilly tracts: it comprehends a large area adjoining the eastern side of Killala Bay, stretching thence eastward to the Ox Mountains, and northward along the coast in the direction of Sligo Bay. The Ox Mountains enter Sligo from the adjoining county of Mayo, and cross its western portion in the direction of N.E. and S.W., reaching nearly to the sea-coast. Their elevations range from 1,400 to nearly 1,800 feet — the most northwardly of them, Knockalongy, being 1,778 feet. An extensive plain (diversified, however, by some conspicuous eminences within its more eastwardly portion) occupies the greater part of the county eastward from the Ox Mountains to the borders of Roscommon and Leitrim. Upon the Roscommon border, in this latter direction, are the Curlew Hills, 865 feet; and towards the border of Leitrim, the Braughlieve Mountains, the highest point of which, Carrow, is 1,396 feet high. The Carrowkeel Mountain, 1,062 feet, and Keshcorran, 1,183 feet, are within the south-eastern border of Sligo, to the north of the Curlew Hills and west of Lough Arrow.

The north-eastern division of Sligo has a more generally irregular surface than any other part of the county. The town of Sligo, situated within this tract, lies within an extensive and fertile plain, bordered in every direction by hills of considerable height. These are loftiest, and most rugged in aspect, to the northward, towards the extreme limit of the county in that direction. Benbulbin, 6 miles N. of the town of Sligo, is 1,722 feet high, and the adjoining King's Mountain 1,527 feet. These hills belong to the same range

as Truskmore, on the Sligo and Leitrim border, which reaches 2,072 feet. Knockarea, a detached hill to the W. of the town of Sligo, is 1,078 feet; Slieve Lacane and the Slish Mountain, both on the S. shore of Lough Gill, are respectively 900 and 967 feet high.

Sligo has numerous rivers and loughs, the latter mostly of small size, though a few of them are considerable. Of the rivers, the Garogue (on which the town of Sligo stands), the Owenmore, the Unshin, the Easky, and the Moy, are the most considerable. The Garogue issues from Lough Gill, and flows into the head of Sligo Bay. The Owenmore and Unshin rivers (the latter issuing from Lough Arrow) unite about three miles above the head of Ballysadare Bay, which receives their joint stream. The Easky carries to the sea the surplus water of Lough Easky, lying within one of the valleys of the Ox Mountains. The Moy flows into the head of Killala Bay, forming in its lower course the boundary between Sligo and Mayo.

Lough Gill, Lough Arrow, and Lough Gara, are superior in size to any of the other loughs within Sligo. The first-named is six miles in length by two in width; all three are enclosed by wooded and picturesque shores, and contain several small and wooded islets. Amongst the many smaller loughs are those of Easky and Talt (both lying amongst the Ox Mountains), with Templehouse Lough, farther to the east.

Geology.—The more level portions of Sligo fall chiefly within the carboniferous limestone area. The hilly districts exhibit primary and metamorphic strata, bordered on either hand by old red sandstone. Mica-slate with hornblende-slate, passing occasionally into quartz and gneiss, compose the group of the Ox Mountains, and a belt of rocks belonging to these formations is prolonged thence eastwardly across the county, past the southern shore of Lough Gill, into Leitrim. Granite appears within the western part of this region, in the neighbourhood of Lough Easky. Strata of old red sandstone and conglomerate skirt the primary formations on either side, and appear also in the hills of the Curlew group. Nearly all the remainder of the county belongs to the carboniferous limestone. The lower limestone occupies the most extensive area within the more level portions of the county: the upper limestone is, besides, extensively represented within its eastwardly half. Yellow sandstone, the lowest member of the carboniferous group, appears in the extreme north of Sligo, and along the shore of Donegal Bay. Both iron and copper ores occur abundantly within the county.

The industry of Sligo is chiefly agricultural. There are extensive tracts of moor and bog within the more hilly portions of the county, but many parts of the level districts—as the plain of Sligo, the neighbourhood of Lough Gara, and that extending inland from the

shores of Killala Bay—possess a fertile soil, and are suitable both for tillage and grazing purposes. The fisheries employ a considerable number of the population. Coarse woollen and linen goods are manufactured, chiefly in the town of Sligo.

Sligo is divided into 6 baronies. Its only town of importance is—

SLIGO . . . pop. 10,420

Sligo is a parliamentary borough, returning one member. The county returns two members.

The town of *Sligo* lies within the north-eastern part of the county, upon either bank of the river Garogue, which issues from Lough Gill. It is, next to Galway, the most considerable place in Connaught, and is a principal mart of trade for the north-west of Ireland, as well as a central station for the fisheries pursued along an extensive line of coast.

None of the other towns within Sligo have so many as fifteen hundred inhabitants. Amongst them are *Tobercurry* (near the southern border of the county), *Ballymote*, *Collooney*, *Ballysadare*, and others.

3. MAYO, a maritime county, third in size amongst the counties of Ireland, has an area of 1,363,882 acres, or 2,131 square miles. Its extensive coast-line, upwards of two hundred miles in length, fronts on the north and west the open expanse of the Atlantic, and is broken by numerous indentations, many of which penetrate deeply into the land. The most extensive of these inlets are Clew Bay, Blacksod Bay, Broad Haven, and Killala Bay, the last-named of which lies between Mayo and Sligo, its eastern shore belonging to the latter county. Blacksod Bay and Broad Haven are only divided from one another by a narrow isthmus (less than half a mile across) which connects the singular peninsula called the Mullet with the mainland. Killery Harbour, a narrower recess, which penetrates nine miles inland, is on the southern border of the county, and forms part of the division between Mayo and Galway.

Numerous islands adjoin the shores of Mayo. The largest of them is Achil Island, divided from the mainland by Achil Sound. Achil Island measures 14 miles from east to west, and has an area of 55 square miles. Amongst the smaller islands belonging to the county are Clare Island, at the entrance of Clew Bay, with Inishturk and Inishbofin, farther to the south. A vast multitude of small islets lie within the upper portion of Clew Bay, closely adjacent to the mainland.

Amongst a great number of headlands that belong to the coast-line of Mayo, the most conspicuous are—Downpatrick Head, Benwee Head, Erris Head, and Achil Head; the last-named of these forms the western extremity of Achil Island. The northern portion of the coast-line of Mayo (from Killala Bay westward to Erris Head), the shores of Achil Island, the north-western shore of Clew Bay, and the northern shores of Killery Harbour, are formed in general by steep cliffs, which in many places rise to a great height. Elsewhere the shores are for the most part low, but are fronted in many parts by rocks, which render them dangerous to shipping. Killala and Blacksod Bays, however, with the upper portion of Clew Bay, include numerous safe and sheltered anchorages.

Mayo has great variety of surface. About half, or rather more, of the county is an undulating plain, an extension of the great level which occupies the central part of the island. The remainder is a mountain-region, portions of which reach upwards of two thousand feet in height, and exhibit scenery of the wildest character, intermixed with desolate tracts of barren moorland.

The high grounds of Mayo are divided into two portions by Clew Bay, at the head of which the level plain of the interior reaches the sea. The tract of country lying north of Clew Bay includes the group of the Nephin Mountains (the highest point of which, Nephin, reaches 2,646 feet), together with the more prolonged chain of Nephin Beg, to the westward of the Nephin group, and the Croaghmoyle Mountains, south-eastward of the latter.

Slieve Car, the highest point of the Nephin Beg chain, reaches 2,368 feet. The loftiest summit of the Croaghmoyle Mountains is 1,655 feet. The Nephin Beg chain is terminated to the northward by the valley of the Owenmore river (flowing west into Blacksod Bay); the high grounds, however, reappear to the north of the Owenmore valley, and fill up the north-western corner of the county. The Croaghmoyle Mountains are bounded to the eastward by the extensive basin of Lough Conn, which belongs to the valley of the Moy river, discharging into Killala Bay. To the east of the Moy are the Slieve Gamph Mountains, which are prolonged into the Ox Mountains of Sligo. Knockwardar, one of the principal summits of the latter range, on the border-line of Sligo and Mayo, is 1,338 feet high, and the highest point of the Slieve Gamph exceeds 1,300 feet. Farther to the south, the plain in which Castlebar stands is limited on the east by the Slieve Carna, 855 feet.

That portion of the Mountains of Mayo which is southward of Clew Bay includes the range of Slieve Partry (running parallel to the western shore of Lough Mask), together with, farther westward, the high masses of Ben Gorm, Mweelrea, Croagh Patrick, and their

connected heights. The southernmost portion of the Slieve Partry range is continuous with Farnnamore and Bengorriff (both exceeding two thousand feet in height), on the border of Mayo and Galway. The mountains lying farther west are wholly within Mayo. It is in the extreme south-western corner of this county, adjacent to the inlet of Killery Harbour, that they assume their highest elevation and their wildest aspect. Mweelrea, which rises steeply above the N. shore of Killery Harbour to the height of 2,685 feet, is the most elevated point in Mayo. Ben Bury, which adjoins Mweelrea to the N.E., is 2,610 feet. Ben Gorm, to the eastward, is 2,224 feet. These three mountains enclose between them the valley of Lough Doo, watered by a small stream which flows southward into Killery Harbour.

The chief river of Mayo is the Moy, the basin of which includes above a third of the county, comprehending the greater part of the level tract which constitutes its eastward and north-eastwardly divisions. The Moy rises within Sligo, and enters Mayo in a S.W. course, afterwards bending N. to its outlet in Killala Bay. A tributary stream which joins its left bank, immediately above Foxford, brings to it the surplus waters of Loughs Cullin and Conn, both of them of large size, and connected by a narrow strait. The Owenmore, which flows into Blacksod Bay, drains the N.W. mountain-tract.

The southward portion of Mayo is watered by the rivers Robe and Ayle, both of them flowing into Lough Mask, and the Errive, which runs into the head of Killery Harbour. The Ayle, which rounds the northern extremity of the Partry Mountains, flows for two miles through an underground channel. Lakes are very numerous within Mayo. Lough Mask, the largest, is partly in Galway. Lough Corrib, which belongs almost entirely to the last-named county, touches the S.W. border of Mayo. The most extensive of those within the county is Lough Conn, which is above eight miles in length. Lough Cullin is immediately S.E. of Lough Conn, and is connected with it by a narrow strait, between projecting peninsulas on either side. Amongst the numerous sheets of inland water are Loughs Carrowmore, Castlebar, and Carra, with many others.

Geology.—The level districts of Mayo exhibit almost throughout the limestone of the central plain, chiefly the ordinary grey limestone of the lower series. Yellow sandstone bounds a part of the limestone plain to the westward, within the north-western division of the county (north and west of Lough Conn). The mountain-tracts which mark the general western limit of the limestone plain, fronting the waters of the Atlantic, are composed of palæozoic rocks, chiefly mica and clay-slates, with extensive masses of quartz, and occasionally granite, protruded through the superjacent strata. The

mica-slate occupies the most extensive area, especially within the tract lying northward of Clew Bay. Old red sandstone appears on the southern shore of Clew Bay, towards its entrance, and also on the northern side of the same inlet. The Croaghmoyle Mountains consist entirely of old red sandstone. The Slieve Gamph, and the adjacent Ox Mountains, are composed chiefly of granite, bordered by mica-slate. The island of Achil is a mass of mica-slate throughout. Valuable marbles, beautifully veined and coloured, abound within the mountain districts of Mayo. There are also iron and other ores, with manganese, &c.

Mayo is chiefly an agricultural district, one of the least populous portions of Ireland. A large portion of the county is unproductive moorland. Oats, potatoes, and barley are the principal crops. Pasturage is more generally attended to than tillage. The fisheries round the shores of Mayo are of high value. Turbot, sole, ling, haddock, hake, and plaice, abound within a short distance of the coast, and salmon are plentiful on the Moy and other rivers. The herring-fishery is pursued off Killery Harbour. Oysters and lobsters are taken in Clew and Blacksod Bays.

Mayo is divided into 9 baronies. Its principal towns are:—

	Pop.		Pop.
CASTLEBAR . . .	2,960	BALLINROBE . . .	2,507
WESTPORT . . .	3,911	BALLINA . . .	5,452

The first-named is the county-town. The county of Mayo returns two members to the imperial parliament.

Castlebar is situated in the plain part of Mayo, eleven miles inland from the head of Clew Bay, on the banks of a little stream which issues from Castlebar lough (near the western extremity of the town), and connects its waters with the basin of the Moy, through Lough Cullin. The linen manufacture is pursued in Castlebar and its neighbourhood to a considerable extent. *Westport*, 10 miles W.S.W. of Castlebar, near the head of Clew Bay, is the chief seaport of the county, and has some share in the linen manufacture. *Ballinrobe*, a small town on the river Robe, lies two miles E. of Lough Mask.

Ballina, the chief place in the northern part of the county, is on the river Moy, six miles above its entrance into Killala Bay. A portion of the town is on the east side of the river, and within the county of Sligo. Ballina has some shipping trade, together with valuable salmon-fisheries. *Killala*, a decayed episcopal city and seaport, is situated on the shore of the bay, a few miles N.W. of Ballina.

4. GALWAY, a maritime county (with the exception of Cork, the

largest in Ireland), has an area of 1,566,354 acres, or 2,447 square miles. Its extensive line of coast lies partly along the shore of Galway Bay, and partly along the open expanse of the Atlantic. A vast number of inlets occur within its limits, many of them safe and capacious resorts for shipping, and forming some of the finest natural harbours in the world. Among the more considerable of these inlets (passing in succession from the opening portion of Galway Bay, round the coast, to the west and north) are Casleh, Greatmans, Kilkerrin, Birterbuy, Roundstone, Mannin, Ardbear, and Claggin Bays, with Ballinakill Harbour and Killery Harbour — the last-named on the border of Galway and Mayo. Some of these bays penetrate several miles inland, and enclose within them numerous smaller and land-locked recesses. Killery Harbour, which is above ten miles in length and less than a mile in average breadth, and is shut in on either hand by lofty mountains (the precipitous cliffs of Mweelrea and Ben Gorm, within Mayo, immediately adjoining its northern shore), approaches more nearly in character to the fiords of the Norwegian coast than any other inlet of the Irish shores.

Among the numerous headlands which divide the indentations of the Galway coast, the most noteworthy are Slyne Head, Aghros Point, and Renville Point. Aghros Point is the most westerly prominence belonging to the mainland of the county. Slyne Head, somewhat farther to the west, is insular.

Galway has numerous islands. The largest are the islands of Arran, three in number, which form a chain lying in the direction of N.W. and S.E. within the entrance of Galway Bay. The largest of the Arran islands (nearly nine miles in length by two miles in its greatest breadth) is called Illanmore, or Inishmore: the two others are Inishmain and Inishere. The surface of the islands is of only moderate elevation (the highest point of Inishmore being 460 ft.), but the land terminates on their south-western face, towards the Atlantic, in a chain of lofty cliffs.* Garomna, Littermore, and numerous smaller islands, more nearly adjoin the coasts of the mainland.

Within the extensive surface of Galway are comprehended natural features of the most opposite description. The large lakes of Mask and Corrib, which stretch across the county in the direction of N.W. and S.E., mark the limit between two distinct regions. The tract lying east of Lough Corrib is chiefly a level plain, forming part of the great

* The island of Inishmore has on it both military and ecclesiastical remains belonging to a period of high antiquity. The Cyclopean ruin known as Dun Angus, of the former description, is one of the most remarkable works of the kind in Europe.

limestone plain of the interior. It is diversified, however, towards the northern border of the county, by the heights of the Slieve Dart range (492 feet), and in the south, towards the border of Clare, by the more considerable elevations of the Slieve Boughda, which cover an extensive area. Kylebeg, 1,079 feet, and Knockeven, 1,242 feet, two of the principal elevations of the Slieve Boughda region, are both within Galway.

The portion of Galway lying west of Loughs Mask and Corrib includes the districts known locally as Joyce's Country, Connemara,* and Iar Connaught. The two former of these are a mountain-wilderness, filling up the country comprehended between Loughs Mask and Corrib and the shores of the Atlantic: the last-mentioned is a low granite plain, which stretches along the shore of Galway Bay, to the westward of the town of Galway, rising gradually towards the mountains that border it on the north. The most conspicuous elevations of the Connemara Mountains are the group known as the Twelve Pins of Bunabola, the highest of which, Benbawn, is 2,396 feet high. Farther east are the Mamturk Mountains, in which Shanfolagh reaches 2,003 feet. Carn Seefin, a detached hill which overlooks from the south the westernmost arm of Lough Corrib, is 1,009 feet high.

The mountains which immediately adjoin the western shore of Lough Mask are divided from the Mamturk range and the group of the Twelve Pins by some of the deep glens which penetrate the region throughout. Bengorriff, 1,038 feet high, and Farmnamore, 2,210 feet, are both situated along the border-line of Galway and Mayo.

The two most considerable rivers of Galway are the Shannon and its affluent the Suck, both of which belong to the eastern border of the county. The basin of the Shannon includes only the more eastwardly portion of the plain country of Galway. The western half of the plain is watered by streams that flow either into Lough Corrib, or into the upper extremity of Galway Bay. The largest of these is the river that passes to the westward of Tuam, and, passing lower down the village of Clare-Galway, enters Lough Corrib near its southern extremity. This stream expands in its course into more than one periodical lake, or *turlough*, the largest of which—Turlough-

* That is "Cun-na-mar," or "bays of the sea," from the numerous indentations of the coast belonging to this wild region. The whole of this mountain-tract has been referred to in a preceding page (591) under the epithet of the Mountains of Connemara. In local nomenclature, Connemara is the more southward and westwardly portion of the mountain-tract; Joyce's Country that which lies between the upper part of Killery Harbour and the western shore of Loughs Mask and Corrib, with the isthmus between the two lakes.

more — is six miles to the southward of Tuam.* There are similar sheets of water formed periodically within the more southward portion of the county, towards the Clare border.

Loughs Mask and Corrib are two of the largest lakes of Ireland, and have been noticed elsewhere (pp. 595, 6). The Connemara district includes a great number of less considerable lakes, amongst them Lough Inagh, the lakes of Ballinahinch (Upper and Lower), Lough Nafeeoy, and many others. Loughrea and Lough Cooter (or Gort Lough) are both within the eastern division of the county. The waters of Lough Cooter are connected with Galway Bay by a stream which flows through an underground channel, and reaches the sea at Kinvarra Harbour.

The *geology* of Galway corresponds to the division of its surface-features above marked. The level portion of the county belongs throughout to the great limestone plain of the interior — the strata exhibiting chiefly the ordinary grey or “lower” limestone. To the southward, however, the middle and upper limestones are extensively developed. In two localities — the Slieve Dart, on the northern border of the county, and the tract of the Slieve Boughta, in the south — old red sandstone rises above the prevailing limestone, and is surrounded, in the case of the Slieve Boughta, by a belt of carboniferous slate and yellow sandstone.

The limestone area includes, besides all that portion of Galway which is to the eastward of Lough Corrib, a narrow belt extending along part of the western shore of that lake. With this exception, the western division of the county consists of igneous and primary rocks. Granite occupies the southern and less elevated portion of this region — i.e., the plain extending west from the town of Galway along the shore of Galway Bay. The granite plain is succeeded to the northward, within the mountain-tracts of Connemara and Joyce's Country, by mica-slate, interspersed with extensive masses of quartz, and traversed by beds of metamorphic limestone, with trap veins and dykes. The group of the Twelve Pins is composed of a schistose quartz, of greyish-brown colour. Clay-slate appears to the north of the mica-slate area, within the tract lying between the western shore of Lough Mask and the upper part of Killery Harbour.

The whole of this western division of Galway abounds in metallic ores (chiefly copper and lead), and contains beautifully veined black and green marbles. Ironstone was formerly worked in the

* These turloughs are shallow lake-basins, within which the waters generally rise to the surface in September or October, and do not subside until the ensuing May. The bed of the lake then becomes a pasture-ground, covered with a crop of coarse grass.

eastern division of the county, within the tract adjoining the Slieve Boughta: manganese, potters' clay, and ochre, occur in the same locality.

Galway is exclusively an agricultural county. It is one of the least populous portions of the island. The only cultivation carried on within the western division of the county is in the limestone tract adjoining the west shore of Lough Corrib: farther west, the county becomes a mere mountain-wilderness. On the sea-coast, however, is found a thinly scattered population, engaged chiefly in the fisheries, which are extensive, and might be rendered of greatly higher value than they actually are. Grazing is largely pursued within the eastern half of Galway, many parts of which consist of rich pasture-land.

Galway is divided into 18 baronies. Its principal towns are:—

	Pop.		Pop.		Pop.
GALWAY	16,786	GORT	2,077	BALLINASLOE	3,200
TUAM	4,542	LOUGHREA	3,063	Clifden	.

Galway, the capital of the county (and also a county of itself), is a parliamentary borough, returning two members. The county of Galway likewise returns two members.

The town of *Galway* lies near the head of Galway Bay, upon its northern side, and at the mouth of the river Corrib, by which Lough Corrib is connected with the sea. The older portion of the town is to the east of the river; portions of it are situated on two islands within the channel of the stream. The advantages of Galway as a seat of trade, arising from its magnificent bay, and its position as the most westerly port of any considerable size in the British Islands, secure to it some amount of foreign trade. This, however, is much below its commercial capabilities, and is relatively less now than in the seventeenth century, when it maintained considerable trading intercourse with Spain.* Galway has extensive docks, and its quays are accessible to vessels of the largest class. It is the seat of one of the Queen's Colleges, opened in 1849. *Athenry*, an ancient and decayed town, of some note in former times, is 13 miles E. by N. of Galway.

Tuam, situated 19 miles to the N.N.E. of Galway, lies within the valley of the Clare-Galway river, which joins Lough Corrib on its eastern side, upon the banks of a small affluent to the main stream. It is the seat of a bishopric belonging to the Protestant Church of

* Evidences of this trade remain in the numerous antique mansions, with enclosed court-yards, which give to some of the older portions of Galway the aspect of a Spanish town. A small open space near the banks of the river is known as Spanish Parade.

Ireland, and is also an arch-episcopal city of the Roman Catholic Church. *Gort*, 18 miles S.E. of Galway, is within the southern part of the county, not far from the western foot of the Slieve Boughta and the waters of Lough Cooter.

Loughrea, 21 miles E.S.E. of Galway, is on the shore of the Loughrea lake, and near the northern slopes of the Slieve Boughta. It lies on the main line of coach road between Dublin and Galway, which crosses the river Suck at Ballinasloe, on the eastern border of the county. *Ballinasloe* is 35 miles distant from Galway in a direct line. It lies principally on the right bank of the Suck, but part of the town is upon the left side of the river, and within the county of Roscommon. Ballinasloe is chiefly noteworthy on account of its extensive cattle-fair, held annually. Four miles S.W. of the town is the village of Aghrim (or Aghrim), the scene of Ginkell's victory over the army of King James, in 1691.*

Galway has numerous other towns, but none with so many as fifteen hundred inhabitants. Of places on its western sea-board, one of the most thriving, for a time, was *Clifden*, situated at the head of Ardbear Harbour, within the romantic district of Connemara, and in the neighbourhood of the Twelve Pins. Clifden was founded about half a century since. It fell into almost complete decay with the potatoe famine of 1846 and the troubles of succeeding years.

5. ROSCOMMON, an inland county, has an area of 607,691 acres, or 949 square miles. Its limit to the east is marked throughout by the course of the Shannon: the river Suck, the chief affluent of the Shannon, forms part of its western and southern border, the southwardly and narrower portion of the county being enclosed between the two rivers. The middle division of the county spreads to considerably greater breadth than either its southern or northern extremities.

The surface of Roscommon exhibits in general an undulating plain, alternately varied by ranges of low hill and tracts of bog-land—the latter most extensive in the neighbourhood of the Shannon, and within the tract enclosed between the Shannon and the Suck above their junction. The highest portion of the county is in the north, on the borders of Sligo and Leitrim. The Curlew Hills here reach 863 feet, and the Braulieve Mountains 1,098,† above the sea. The Slieve Baun, a range of high ground which runs for a few miles parallel to the course of the Shannon, and not far from its western

* See Macaulay: *Hist. of England*, chap. xvii.

† The highest summit of the Braulieve Mountains, 1,396 feet high, is within the county of Sligo.

bank, is 837 feet high. The Slieve Dart, in the westernmost corner of the county, on the Galway and Mayo border, are less than 500 feet in altitude. Elsewhere, the surface of Roscommon is rarely more than from three to four hundred feet above the sea-level, and declines towards the south, in the direction taken by its two principal rivers, to much lower altitudes.

The whole county of Roscommon is within the basin of the Shannon, which river is navigable along its entire eastern border. The western side of Lough Ree belongs to the county. The river Suck, which rises close to the border-line between Roscommon and Mayo, is the most considerable affluent of the Shannon. It has a course of about 60 miles, the last ten of which—from Ballinasloe to the point of junction of the two rivers—are navigable. Among other affluents of the Shannon within Roscommon, the most considerable is the Boyle, which joins it a short distance above the town of Carrick, expanding on its way into Lough Key. Lough Gara, from which the Boyle issues, is partly in Roscommon, but principally within the adjoining county of Sligo. Besides the large lakes of Ree and Allen, both of which belong in part to Roscommon, there are numerous small lakes within the county (several of them expansions of the Shannon, in that portion of its course which is between Lough Allen and Lough Ree), and also several *turloughs*, or temporary lakes—the latter formed during the rains, and afterwards drained off through fissures in the limestone rock.

The *geology* of Roscommon exhibits nearly throughout the limestone of the central plain—i.e., the ordinary grey limestone which forms the lower member of the carboniferous group. The argillaceous limestone, or *calp*, appears in the extreme south, over a limited area of the county. Of other formations, the only ones developed to any considerable extent are yellow sandstone and old red sandstone. The former appears in the western portion of the county, on either side of the valley of the Suck, above Castle-reagh. Old red sandstone forms the chief constituent of the Slieve Baun and the Curlew Hills, extending from the latter over part of the valley of the Boyle river. The Braulieve Mountains, farther to the north, belong to the coal-basin of Lough Allen, and exhibit workable beds of coal, resting on millstone grit. Good ironstone is obtainable from the latter, and was formerly worked within the Arigna valley, near the S.W. shore of Lough Allen. In general, the mineral productions of the county are not important: potters' clay is worked, and coarse earthenware made from it.

Roscommon is chiefly a grazing county, large portions of its plains constituting rich natural pastures, on which sheep and oxen are reared in great numbers. Butter is extensively made, and the

dairy-produce generally is considerable in amount. In the lands under tillage, oats are the principal crop. There are extensive tracts of bog and marsh, interspersed, however, with drier and cultivable tracts. The population is denser than in most parts of Connaught. Some manufacture of coarse blankets and woollen stuffs is carried on to a limited extent.

Roscommon is divided into 9 baronies. Its principal towns are: —

	Pop.		Pop.
ROSCOMMON	2,699	BOYLE	3,002

Portions of Athlone (Westmeath) and of Ballinasloe (Galway) are within the county of Roscommon. Castlereagh, Elphin, Strokestown, and other small towns belong to Roscommon, but none of them have so many as 1,500 inhabitants. The county of Roscommon returns two members to the imperial parliament.

The county-town, *Roscommon*, stands upon open ground, within the narrower portion of the county, and about midway between the Shannon and Suck rivers. *Boyle*, a town of early celebrity, and now the largest place in the county, stands in a varied and picturesque district towards its northern border, on the banks of the river Boyle, above its expansion into Lough Key. It has the ruins of an ancient abbey, a structure of the 12th century. *Elphin* (10 miles to the S.E. of Boyle, and 15 miles N. of Roscommon) is only noteworthy as the seat of a Protestant bishopric. *Castlereagh*, on the Suck, is 15 miles N.W. of Roscommon.

MUNSTER.

1. CLARE, a maritime county, has an area of 827,994 acres, or 1,294 square miles. It forms a peninsula, being almost enclosed between the waters of the Shannon on the east and south, and the Atlantic Ocean, with the broader portion of Galway Bay, on the west. The coast-line is consequently of great extent; this is for the most part marked, along the ocean, by steep cliffs, which in many places rise almost perpendicularly to four hundred feet and upwards in height. The promontories of Black Head, on the S. shore of Galway Bay, and Loop Head, at the entrance of the Shannon, mark the limits of this line of bold and generally iron-bound coast, within which, however, are the openings of Liscanor, Milltown, Dunbeg, and Kilkee Bays, which afford imperfect shelter to fishing vessels. The name of Malbay, applied to the whole indentation formed by the coast between Liscanor and Dunbeg Bays, is indicative

of its dangerous character. On the side of the Shannon, the coast of Clare includes numerous sheltered creeks, with some good places of anchorage. Several small islands occur within the lower course of the Shannon, especially at the junction of the Fergus, and within the estuary which the latter river forms.

Great part of the surface of Clare is elevated. That portion of the county which lies east of the river Fergus is in great measure covered, in the direction of the Shannon and Lough Derg, by the groups of the Slieve Boughta and the Slieve Bernagh Mountains. The highest points of the Slieve Boughta are within Galway. The Slieve Bernagh, which nearly adjoin the western shore of Lough Derg, reach 1,735 feet. The central division of the county, including the Fergus valley and an extensive tract to the east of that river, is a nearly level plain. West of the Fergus are high grounds which spread over an extensive area: the highest portion of these, called Slieve Cullane, is 1,281 feet above the sea. Towards the shore of Galway Bay, the county exhibits a hilly surface of naked and barren limestone rock, almost devoid of running streams, but containing several turloughs. The county includes a great extent of bog: this is most extensive in its south-western portion, between the Atlantic and the lower portion of the Shannon estuary. Bog oak, or fossil timber, is abundant, though the land is in general bare of trees.

The chief rivers of Clare are the Shannon and the Fergus — the former marking the limit of the county from Lough Derg downward to the sea. The lower portion of the Fergus forms an extensive estuary, five miles in width at its junction with the Shannon, and within which are a great number of islands. A channel navigable for ships drawing 16 feet of water extends to the head of the estuary, and the river is navigable thence up to the town of Clare.

The Ougarnee and Blackwater rivers join the Shannon — the former about midway between the Fergus and the town of Limerick, the latter a short distance above Limerick. The Searriff river enters the western arm of Lough Derg, and carries into it the waters of several smaller lakes. The Ougarnee river also forms the outlet of several lakes. Others of the numerous small lakes contained within the county are connected with the basin of the Fergus. There are also several turloughs, or temporary lakes, the waters of which are periodically absorbed within openings in the limestone rock of which a large portion of the county is composed.

The *geology* of Clare exhibits generally a regular succession of stratified deposits, from clay-slate — its oldest fossiliferous rock — upward in the geological series. The nucleus of the Slieve Boughta and the Slieve Bernagh ranges consists of clay-slate, which is

enclosed by successive belts of Devonian strata (old red sandstone) and carboniferous slate. These formations occupy an elevated area, intruded through the limestones of the great central plain, by which they are enclosed on every side. The carboniferous slate, which in Clare marks the lower slope of the high grounds, is immediately succeeded to the west by the lower limestone, and that, again, by the upper limestone — the intermediate (or calp) series being here wanting. The formations above enumerated occupy all the eastern division of the county, as far westward as the valley of the Fergus — the upper members of the limestone series embracing the tract which adjoins the shores of Galway Bay. The remainder of the county is occupied by strata of the lower coal series; culm, and, in a few localities, workable seams of coal, appear within this tract, towards the western border of the county, and in the immediate neighbourhood of the Atlantic.

The mineral productions of Clare are of high value. Besides coal, they comprehend iron-ore, lead, copper, and manganese, with valuable black marbles, flag-stones, and slates. The slate quarries are within the Slieve Bernagh tract, in the eastern part of the county, and yield slates of the best quality.

Clare is chiefly an agricultural county, and is thinly populated. The rearing of stock is more attended to than the practice of arable husbandry, many parts of the county containing rich pastures. This is especially the case with the turloughs, tracts liable to periodical inundation with the season of winter rain, but which become converted on the retiring of the waters into fertile meadowlands. The fisheries are pursued only to a very limited extent.

Clare is divided into 9 baronies. Its principal towns are: —

	Pop.		Pop.		Pop.
ENNIS . . .	6,993	| KILRUSH . .	4,565	| KILKEE . . .	2,031

Ennis, the county-town, is a parliamentary borough, returning one member. The county returns two members.

Ennis lies on the banks of the Fergus, five miles above the head of the estuary which that river forms before its junction with the Shannon, and three miles above the small town of Clare, up to which the Fergus is navigable for sea-borne vessels. At Clare, a ledge of rock interrupts the navigation, but between Clare and Ennis the river again presents a deep and navigable channel. *Newmarket-on-Fergus*, a small place near the east side of the Fergus estuary (and on the line of railway by which Ennis communicates with Limerick), is seven miles to the S.E. of Ennis.

Kilrush, a small seaport town, lies on the N. side of the estuary of

the Shannon, about 20 miles to the eastward of Loop Head. It has a secure harbour, and enjoys some fishing and other trade. *Kilkeel*, on the west coast of Clare, is romantically situated at the head of a small bay, and has become of late years a favourite resort as a bathing-place.

Killaloe, an episcopal city in the eastern part of Clare, is situated on the right bank of the Shannon, immediately below its issue from Lough Derg. It is of some importance as a centre of inland navigation, by way of the Shannon, and also communicates with Limerick by a line of railway running close along the eastern bank of the river.*

The western suburb of the city of Limerick is within Clare.

2. LIMERICK, an inland county, has an area of 680,842 acres, or 1,064 square miles. The Shannon flows along the whole length of its northern border, dividing it from Clare.

The surface of Limerick exhibits for the most part an extensive plain, with a northwardly slope towards the Shannon. This plain is bordered on three sides—the east, south, and west—by grounds of some height, which form detached groups rather than continuous chains. The Slieve Phelim Mountains (continuous with the Silver Mine Mountains of Tipperary) occupy the north-eastern division of Limerick. The Galty Mountains, of which the chief part is also within Tipperary, penetrate the south-eastern corner of this county, as likewise does the adjacent range of Slievenamuck, to the north of the Galtees. Galtymore, 3,008 feet in altitude, and the highest summit of the Galty chain, is on the border-line of Limerick and Tipperary, and is considerably superior in elevation to any other summit either within the county of Limerick or the adjacent portions of the island. The western high grounds occupy a considerable area of that portion of the county which is to the westward of the Deel river.

Nearly the whole of Limerick belongs to the basin of the Shannon, which offers a continuous navigation along the whole northern border of the county, the rapids that occur a few miles above the city of Limerick being avoided by an artificial cut, formed on the western

* Sarsfield crossed the Shannon at Killaloe on his gallant exploit in the destruction of the guns and ammunition advancing from Cashel to William III., during the first siege of Limerick, concealing his band by day among the recesses of the Silver Mine Mountains. (See Macaulay: *Hist. of Eng.*, chap. xvi.)

(or Clare) side of the river. The chief tributaries of the Shannon, within Limerick, are the Mulkern, Mague, and Deel rivers, all of which join the Shannon on its left bank — the first-named above the city of Limerick, the two other between Limerick and the sea. The Mulkern drains the tract of the Slieve Phelim. The Mague, which waters the central portions of the county, receives several tributaries, among which are the Kilmallock, Morning Star, and Camoge rivers. Lough Gur, a small but picturesque body of water, about five miles in circumference, lies within the tract enclosed between the Morning Star and Camoge rivers.

Geology. — The level portions of Limerick belong, geologically, to the central plain of Ireland, and exhibit the predominant carboniferous limestone, the beds of the lower limestone series being most extensively developed. Strata of clay-slate are protruded through the limestone in several localities, and most extensively so in the case of the hilly tracts which extend into the county on the N.E., and within its south-eastern border. The clay-slate of the Slieve Phelim is flanked by a conglomerate of old red sandstone and carboniferous slate. Old red sandstone appears in several other localities. There are also protruded masses of trap in several places within the central plain of Limerick.

The high grounds in the westernmost portion of Limerick (like the adjoining tract on the opposite bank of the Shannon, within Clare) form part of the Munster coal-field, an extensive area, within which large portions of the neighbouring counties of Cork and Kerry are also included. Culm, or coal of slatey structure, and inferior quality, is worked in a few localities within this tract. Black and other marbles occur in the eastward division of the county, together with various mineral ores.

Limerick is chiefly an agricultural county, pasturage and dairy-husbandry constituting the chief pursuits of its farming population. Butter is very extensively exported. Pigs are reared in great numbers, chiefly for the export market. There are various manufactures in the city of Limerick, besides a very extensive shipping trade. The county of Limerick, as a whole, is the most populous in Munster.

Limerick is divided into 14 baronies. Its principal towns are: —

	Pop.		Pop.		Pop.
LIMERICK .	44,626	RATHKEALE .	2,761	NEWCASTLE .	2,415

The above are the only places that have so many as 2,000 inhabitants. Askeaton and Foynes also deserve mention.

Limerick, the capital of the county, is a city, and also a county

of itself, and returns two members to the imperial parliament. The county of Limerick also returns two members.

Limerick is situated on the Shannon, at the commencement of the estuary of that river, its oldest portion, containing the cathedral, being built on an island in the stream. Limerick ranks fourth in order of population among the cities of the island. It has considerable manufactures, of linen, woollen, cotton, paper, and many other articles, and is a great place of trade, both foreign and coasting. Vessels of 400 tons burthen can ride in safety at the quay, and the navigation thence to the mouth of the Shannon is unobstructed and secure.* Limerick has shared in most of the great historical occurrences of the country, and has always been the chief stronghold of the Roman Catholics of Ireland. It sustained two memorable sieges in 1690-1, in defence of the cause of James II., the latter of which resulted in its surrender on terms highly favourable to the besieged.

Rathkeale, 17 miles to the S.W. of Limerick, is situated on the river Deel. *Newcastle*, within the valley of the same river (a short distance from its western bank) is between 7 and 8 miles farther to the S.W. *Askeaton* (pop. 1,636) also stands on the Deel river, lower down its valley, and three miles above its confluence with the Shannon. Vessels of 60 tons burthen ascend the Deel to the bridge of Askeaton. *Foynes*, on the Shannon (about 20 miles below Limerick, and 5 miles below the outlet of the Deel), has become of some importance within recent years, owing to its secure harbour, which has occasioned its being made a port of departure for steamers. Foynes is connected with Limerick by railway.

3. **TIPPERARY**, an inland county, has an area of 1,061,731 acres, or 1,659 square miles. Its shape is irregular. A portion of its western boundary is marked by the Shannon and Lough Derg, and part of its southern boundary by the river Suir and the adjacent range of the Knockmeiledown Mountains. The Galty Mountains cross the western border of Tipperary, on the side of Limerick.

Tipperary has a very varied surface. The central and broader portion of the county includes a large extent of plain, with a gently-undulating surface. Towards its western and southern borders the ground is generally hilly, assuming in some localities a mountainous

* A few miles above Limerick begins the rapids of the Shannon, the principal of which (near the small town of Castle Connell, situated on the Limerick side of the river) forms the fall of Doonas.

aspect. Detached tracts of high ground occur in various parts of the county.

The ranges of high ground belonging either wholly or in part to Tipperary include — within the northern half of the county, the Arra Mountains, the Silver Mine Mountains, and the Devil's Bit: towards its south-western and southern borders, the ranges of Slievenamuck, the Galty Mountains, and the Knockmeiledown Mountains, with the detached mass of Slievenaman.

The Silver Mine Mountains and the Devil's Bit belong to a continuous range of high ground which crosses the northern part of Tipperary in the direction of S.W. and N.E., from the county of Limerick on the one side to the borders of King's County and Queen's County on the other. This high ground is continuous in the latter direction with the Slieve Bloom Mountains, within the two last-named counties. The highest summit of the Silver Mine Mountains is Keeper, 2,265 feet. The Devil's Bit reaches 1,572 feet.

The Arra Mountains, 1,558 feet, are a detached group, lying farther west, and divided from the Silver Mine Mountains by an intervening valley. They adjoin the south-eastern shores of Lough Derg, facing (upon the opposite side of the lake, and within the county of Clare) the Slieve Bernagh group.

The Knockmeiledown, Galty, and Slievenamuck ranges, within the south and south-west of Tipperary, all lie in the direction of east and west, and are divided from one another by valleys which have the same direction. These valleys belong to the basin of the Suir, and have an eastward slope, towards the course of that stream. Galtymore, the highest summit of the Galty Mountains (on the Tipperary and Limerick border), reaches 3,008 feet above the sea: the Knockmeiledown Mountains reach 2,598 feet. The detached hill of Slievenaman, 2,362 feet, is upon the north side of the Suir valley.

The Suir is the principal river of Tipperary, and the greatly larger portion of the county is within its basin. The Nore, an affluent of the Barrow (which, together with the Suir, enters Waterford Harbour), rises within the north-eastern corner of the county. The north-western division of Tipperary (including the tract lying west of the Devil's Bit and the continuous chain of high ground of which it forms part) belongs to the basin of the Shannon, which river flows along its western border. Of smaller streams flowing either into the Shannon, or into Lough Derg, are the Nenagh and Little Brosna rivers — the latter in the extreme north of Tipperary, on the border of King's County.

Geology. — The level portions of Tipperary are almost throughout composed of carboniferous limestone. The hills exhibit chiefly a nucleus of clay-slate, flanked by sandstone conglomerate (old red

sandstone), and, in some places, carboniferous slate. The Knockmeiledown, Galty, and Slievenamuck ranges, consist almost wholly of old red sandstone, with, in the case of the last-named, masses of yellow sandstone towards its western extremity. The clay-slate of Tipperary is most extensively developed in the Silver Mine, Devil's Bit, and Arra Mountains, within the north-western division of the county. Quarries of excellent slate are worked within the Arra Mountains. Lead, and with it silver, has been worked extensively in the tract of the Silver Mine Mountains; copper and other ores are also abundant.

The limestone of Tipperary includes, in the eastern part of the county, towards Kilkenny, a coal-field of several miles in extent. The coal-bearing strata here form a series of low hills, which rest upon the limestone plain. A few coal-pits are worked in the neighbourhood of Killenaule. The coal has the quality of anthracite.

Tipperary is almost exclusively an agricultural county. Dairy-husbandry is extensively pursued, and large quantities of butter, with bacon and other farm produce, are exported. The woollen and flax manufactures are carried on in some of the towns.

Tipperary is divided into 2 ridings,* each of which includes 6 baronies. Its principal towns are:—

	Pop.		Pop.		Pop.
CLONMEL .	11,104	CASHEL .	4,317	FETHARD .	2,301
CARRICK-ON-		THURLES .	4,788	TIPPERARY .	5,907
SUIR .	4,986	TEMPLEMORE	2,973	NENAGH .	6,282
CAHIR .	3,068			ROSCREA .	3,543

Clonmel and Cashel are parliamentary boroughs, returning one member each. The county of Tipperary returns two members. Clonmel and Nenagh are respectively the assize-towns for the South and North Ridings of the county.

Clonmel, which ranks as the capital of the county, stands principally on the north bank of the river Suir. A suburb of the town is to the south of that river, and within the county of Waterford. Clonmel enjoys considerable trade, as the chief outlet for the exportable produce of the county. The numerous flour-mills belonging to the town represent the chief feature of its industry. Clonmel is a place of ancient date. It was a stronghold in the times of Danish invasion, and has shared in all the important events of Irish story. Cromwell stormed it, after a vigorous resistance,

* This division is of recent date.

in 1650. *Carrick-on-Suir* (chiefly on the N. bank of the river, but, like Clonmel, having also a suburb on the south or Waterford side of the stream) is 13 miles E. of Clonmel. It formerly had considerable woollen manufactures, which have completely gone to decay, and the town has greatly declined in importance. *Cahir*, a small town on the Suir, is 8 miles due W. of Clonmel.

Cashel, in the central part of Tipperary (13 miles N.W. of Clonmel) is an ancient and venerable town, built round the southern and eastern slopes of an eminence known as the Rock of Cashel, which rises above the rich plain through which the Suir here flows, at a distance of about two miles to the eastward of the river. It is an episcopal city, and, besides its Protestant cathedral, of modern date, possesses the extensive ruins of an ancient cathedral, with an abbey and other ecclesiastical edifices. These remains occupy the summit of the rock. The town of Cashel has declined greatly within a recent period.

Thurles and *Templemore* are both situated near the right bank of the Suir, to the northward of Cashel. *Fethard* and *Tipperary* are on small tributaries of that river—the former 7 miles N. of Clonmel, the latter 12 miles W. by S. of Cashel. *Nenagh*, the chief place within the North Riding of the county, lies on the banks of the Nenagh river, which enters Lough Derg. *Roscrea*, near the N.E. border of Tipperary, stands on the high ground which here forms the watershed between the basins of the Nore and the Shannon—part of the continuous chain of heights described as traversing the county from south-west to north-east.

4. WATERFORD, a maritime county, the smallest in Munster, has an area of 461,553 acres, or 721 square miles. Its line of coast extends between Youghal and Waterford Harbours, and includes the bays of Ardmore, Dungarvan, and Tramore. Excepting within these inlets, the coast is generally rocky. Neither Dungarvan Harbour nor Tramore Bay afford any safe resort for shipping, but Waterford Harbour constitutes a deep and secure recess. Throughout two-thirds of the length of the county, the river Suir flows along its northern border, and the shore of Waterford Harbour forms its eastern limit. The westernmost portion of the northern boundary-line coincides with the range of the Knockmeiledown Mountains.

Excepting in its easternmost portion, the county of Waterford has generally a hilly surface; towards the west and north-west, the ground rises into high mountains, of which the Commeragh and Knockmeiledown ranges are the principal. The Commeragh Mountains, with the adjacent group of the Monavullagh Mountains, fill a considerable part of the tract of country adjoining the south bank

of the Suir, to the S. and S.E. of Clonmel. The highest point of the Commeragh Mountains is Knockanafrian, 2,469 feet. The Knockmeiledown Mountains, farther to the west, intervene between the basins of the Suir and Blackwater rivers, and reach a greater elevation, their highest point (on the border-line of Waterford and Tipperary) being 2,598 feet.

The chief rivers of Waterford are the Suir and the Blackwater. The former enters the harbour of Waterford, the latter forms at its mouth Youghal Harbour. The lower course of the Blackwater, for a distance of 15 miles, is entirely within the county. Of smaller streams, the Nier and Cladagh rivers (flowing in opposite directions from the western and eastern slopes of the Commeragh Mountains) both join the Suir. The river Bride—flowing in an eastwardly course from the adjoining county of Cork—joins the Blackwater on its right bank: the smaller streams of the Phinies and Lickey rivers enter the Blackwater on its left or eastern bank. The river Bride is navigable up to the town of Tallow, near the western border of the county.

Geology.—Waterford differs in its geological conformation from most of the counties hitherto described. The limestone of the central plain only penetrates Waterford within a narrow strip of country lying along the course of the Blackwater river, as far as the southwardly bend of the stream (at the town of Cappoquin), and extending thence, in the same eastwardly direction, to the harbour of Dungarvan. Excepting within this narrow belt, the strata consist almost exclusively of clay-slate, with red quartzose conglomerate (old red sandstone). The clay-slate area occupies nearly all the eastern half of the county—all that portion which is east of the Commeragh Mountains: the old red sandstone and its allied beds compose the remainder, the limestone belt of the Blackwater and Bride valleys forming a division across them, in the direction of east and west.

The clay-slate of Waterford is of two distinct kinds—one, the ordinary clay-slate of the Silurian series—the other, an older rock belonging to the transition or metamorphic series. The latter occupies great part of the tract of county which extends S. and S.W. from the city of Waterford, in the direction of Dungarvan Harbour. The grey slates of this older series are extensively quarried for roofing purposes. Iron, lead, and copper, have all been worked within the clay-slate districts. Good potters' clay occurs. Black and other marbles are also met with.

Waterford is chiefly an agricultural county. Much of the land is under pasture, and the produce of the dairy is extensive. Bacon is largely exported, as also are various live stock, with butter, grain, flour, meal, &c.

The county of Waterford is divided into 8 baronies. Its principal towns are : —

	Pop.		Pop.		Pop.
WATERFORD	23,220	DUNGARVAN .	5,881	LISMORE .	2,089
PORTLAW .	3,915	Cappoquin .	1,798	Tallow .	1,627

The city of Waterford returns two members to the imperial parliament. Dungarvan is a parliamentary borough, returning one member. The county of Waterford returns two members. The city of Waterford is the capital of the county, and is also a county of itself.

Waterford is a considerable town, finely situated on the S. bank of the river Suir, 12 miles above the sea. It flourishes chiefly by its extensive traffic with Bristol, and is the great seat of the coasting and cross-channel export trade for the southern part of the island. Its foreign trade is much less considerable. Vessels of 800 tons burthen can reach the quays of Waterford: ships of heavier tonnage load and discharge at the town of Passage, lying on the W. side of Waterford Bay, 5 miles nearer the sea. *Tramore*, a small fishing and bathing-town on the shore of Tramore Bay, is 7 miles to the S.S.W. of Waterford, with which it is connected by railway. *Portlaw* lies in the valley of the Cladagh river, a short distance above its junction with the Suir.

Dungarvan, a seaport town, 25 miles S.W. of Waterford, is chiefly important from its fisheries, and from the resort of visitors thither for purposes of summer bathing. It was formerly a walled town of considerable strength, and has still a castle built by King John. *Lismore*, on the S. bank of the Blackwater river, is one of the most ancient and sacred seats of Irish learning, and enjoyed in former times an importance which has long since left it. *Cappoquin*, 3 miles E. of Lismore, is situated at the point where the Blackwater bends to the southward, and where its navigation begins. *Tallow*, 4 miles S.W. of Lismore, is within the valley of the Bride.

5. CORK, a maritime county, the largest in Ireland, has an area of 1,846,333 acres, or 2,885 square miles. Its extensive coast-line stretches from Youghal Bay on the east to Kenmare Bay on the west, and includes Ballycotton Bay, Cork Harbour, Kinsale Harbour, Courtmaesherry Bay, Clonakilty Bay, Ross Harbour, Glendore Harbour, Castle Haven, Baltimore Bay, Roaring Water Bay, Crock Haven, Dunmanus Bay, and Bantry Bay.

Between these numerous inlets, the coasts are generally bold and rocky. The most important among them are the harbours of Cork and Kinsale, with the magnificent estuary of Bantry Bay. Cork Harbour

admits vessels of the largest class, which ride within its land-locked enclosure in perfect safety. Kinsale Harbour is equally safe, but much less capacious. Bantry Bay, which stretches a distance of 27 miles inland, includes within its extensive area a number of smaller inlets, the chief of which are Bear Haven, between Bear Island and the mainland on the northern side of the bay, and the harbours of Glengarriff and Bantry, near its upper extremity. All three of these are safe places of resort for vessels of every class.

The promontories of Sheep's Head (the termination of the peninsula which stretches between Bantry and Dunmanus Bays), Mizen Head, Cape Clear, Gally Head, and the Old Head of Kinsale, with many others of less importance, belong to the coasts of this county. Mizen Head is the southernmost point of the Irish mainland. Cape Clear Island (on which is the promontory of that name) is divided from the mainland by a channel of a mile and a half in breadth.

The larger portion of Cork has an elevated surface. The principal mountain groups are in the west and north-west, and the general inclination of the surface is to the eastward. This is shown by its rivers, all of which have eastwardly courses, and finally make a southward bend before reaching the sea. The valleys of the Blackwater, Lee, and Bandon—the principal rivers of the county—divide the different groups and ranges of high ground, which, like the rivers themselves, have in general an east and west direction. Towards the western border of the county, this direction becomes rather that of N.E. and S.W., as indicated by the numerous estuaries which form so characteristic a feature of the south-western shores of Ireland, and which the hill-ranges in that portion of the island divide from one another.

The mountain range which occupies the peninsula dividing Kenmare and Bantry Bays includes Hungry Hill, 2,249 feet, on the border-line of Cork and Kerry, with the adjoining chains of the Caha Mountains and the Slieve Miskish Mountains. Hungry Hill exceeds in height any other point either within or on the borders of the county. The Slieve Miskish range is to the S.W. of Hungry Hill: the Caha Mountains stretch to the north-eastward, past the head of Glengarriff Harbour. Thence the high grounds are prolonged, past the head-waters of the Lee and its affluents, and along the border-line of Cork and Kerry, to the Derrynasaggart Mountains and the range of Cahirbarna (5 miles S.W. of Millstreet), the latter 2,234 feet in height. The groups of the Bogha (or Boggra) and Nagles Mountains bound the valley of the Blackwater on the south; the highest point of the Nagles Mountains reaches 1,388 feet. The Shehy Mountains, near the head of the Lee valley, are 1,796 feet in height. The south-eastern division of the county, including

the lower portions of the principal river-valleys, is much less elevated, but the surface is nowhere flat through any considerable area.

The principal rivers of Cork are the Blackwater, Lee, and Bandon, already mentioned. The lower portion of the Blackwater (with that of its affluent, the Bride) is within the county of Waterford: the Lee and the Bandon belong wholly to Cork. Both the Lee and the Bandon have numerous affluents. The Arrigadeen river, a much less considerable stream, to the S. of the Bandon, has the same eastwardly direction as the larger streams, and enters the ocean by an estuary on the west side of Courtmacsherry Bay.

The prevailing characteristics of the *geology* of Cork are clay-slate and old red sandstone. The clay-slate, which forms the highest elevations, and upon which the strata of sandstone rest, is found in the western part of the county, extending from the north side of Bantry Bay to the upper portion of the Blackwater valley. The red sandstone occupies all the middle and longer portion of the county, including most of the tract lying between the Bandon and Blackwater rivers (the valley of the Lee inclusive), and extending into the adjoining county of Waterford. The Nagles Mountains consist altogether of sandstone: the Bogha group is composed partly of sandstone and partly of clay-slate.

The carboniferous limestone of the central plain is much less extensively developed in Cork than in the adjoining counties to the north and north-east. It appears, however, in the lower valleys of the Blackwater and Lee rivers, and also to the northward of the former. Within the valley of the Bandon and the adjoining tract to the southward, the limestone passes into carboniferous slate, which latter formation alternates with the red sandstone rocks throughout the southernmost peninsulas and headlands of the island.

The north-western part of the county of Cork belongs to the Munster coal-field, which includes the contiguous portions of Limerick and Kerry. Coal is worked at a few localities within the upper part of the Blackwater valley, to which this tract — most of it little better than a mountain wilderness — chiefly belongs. Iron, copper, lead, manganese, and other ores, abound in various parts of the county, principally within the clay-slate area.

Cork is chiefly an agricultural county. Excepting within the tract that is inclusive of the city of Cork, it is thinly populated. Large portions of the surface consist of barren moor and bog. The most productive tracts are those coincident with the lower portions of the principal river-valleys. Bacon, butter, and other farm-produce, are extensively supplied, much of it to the export market. There are woollen and other manufactures in the city of Cork.

The county of Cork is divided into 2 ridings, and 22 baronies. Its principal towns are:—

	Pop.		Pop.		Pop.
CORK . . .	78,892	FERMOY . .	6,202	KINSALE . .	4,000
PASSAGE . .	2,287	MALLOW . .	3,612	BANDON . .	6,218
QUEENSTOWN	8,653	KANTURK . .	2,226	DUNMANWAY	2,071
MIDDLETON .	3,378	MITCHELLS-		CLONAKILTY .	3,074
MACROOM . .	3,283	TOWN . . .	2,920	SKIBBEREEN .	3,694
YOUGHAL . .	6,328	CHARLEVILLE	2,458	BANTRY . . .	2,444

Cork and Bandon are respectively the principal assize-towns for the East and West Ridings of the county. Cork is the capital of the county, and besides being an episcopal city is also a county of itself. The city of Cork returns two members to the imperial parliament. Youghal, Mallow, Kinsale, and Bandon, are parliamentary boroughs, returning one member each. The county returns two members.

The city of *Cork* is situated on either side of the river Lee, a few miles above its expansion into Cork Harbour. It is the third city of Ireland in point of population, and only second to Belfast in the amount of its foreign trade. Provisions and other agricultural produce are largely exported, and coarse linen and woollen goods, with paper, leather, and glass, are manufactured: ship-building is also extensively carried on, and many large steamers are constructed. Cork is the seat of one of the Queen's Colleges, and has several literary and scientific institutions. The romantic groves of Blarney, and the ruins of Blarney Castle, are five miles to the N.W. of Cork. Upon Great Island, within Cork harbour, is *Queenstown*,—formerly Cove of Cork, which received its present name on occasion of Her Majesty's visit to Ireland, in 1849. *Queenstown* forms the principal port of Cork, as only the smaller vessels are able to reach that city. *Middlton* lies at the head of an estuary belonging to the N.E. angle of Cork Harbour. *Macroom*, 21 miles W. of Cork, is within the upper portion of the Lee valley, on a small affluent of that river.

Youghal (26 miles E. by N. of Cork) stands on the west side of the Blackwater river, immediately above its entrance into the sea. The estuary of the Blackwater, which above the town widens considerably, forms the harbour of Youghal, the entrance of which is obstructed by a bar. Youghal has, however, considerable shipping trade (to which the salmon fishery of the Blackwater contributes largely), and is of much resort as a summer watering-place.*

Fermoy and *Mallow* are both situated on the upper Blackwater—the former 17 miles to the N.E., the latter at the same distance N.N.W.,

* Sir Walter Raleigh resided for some time at Youghal, and planted there, it is said, the first potatoes which he brought from America.

of Cork. Fermoy is immediately adjacent to the eastern termination of the Nagles Mountains, and commands an important pass to the city of Cork and the south-western districts of the island, between the Nagles and the range of high grounds stretching farther to the eastward, along the S. bank of the Blackwater. *Charleville*, on the northern border of the county, is a town of modern origin, dating only from the latter half of the 17th century.

Kinsale, a town of frequent mention in the historic annals of Ireland,* lies near the mouth of the Bandon river, the estuary of which constitutes its harbour. It is chiefly important from the extensive fisheries of which it is the centre, and from its usage as a summer bathing-place. *Bandon*, on the river of that name (15 miles S.W. of Cork), is a well-built town, the centre of one of the most fertile tracts within the county. Its origin dates no farther back than the commencing portion of the 17th century.

Skibbereen, 28 miles S.W. of Bandon, is on the river Islin, near its outlet into Baltimore Harbour. The latter derives its name from the village of Baltimore, formerly a place of some importance, lying on its eastern shore.

6. KERRY, a maritime county, has an area of 1,186,126 acres, or 1,853 square miles. It forms the south-westernmost portion of Ireland, and includes within the limits of its shore-line several of the deep bays and land-enclosed recesses which are the characteristic of that coast. From Kenmare Bay on the south, the coast of Kerry reaches northward to the estuary of the Shannon: Dingle and Tralee Bays, with numerous openings of less magnitude, intervene between these extreme points. The inland frontier of the county is marked in general by high grounds which lie along the Cork and Limerick border.

The Bays of Kenmare and Dingle are among the most extensive inlets found upon the coasts of the British Islands, each of them penetrating about thirty miles inland. The shores of Kenmare Bay are generally open; those of Dingle Bay, excepting within its upper portion, known as Castlemaine Haven, are for the most part lined with high cliffs. Kenmare Bay has deep water up to its head, near which is situated the town of Kenmare, and has several secure and sheltered recesses on either side of its coast-line: Dingle Bay is more open and unsafe, and its upper extremity is full of shoals. Ballinskelligs Bay, St. Finnan Bay, and the narrow channel which divides the island

* Kinsale was taken by Marlborough in 1690, a few days after his successful siege of Cork. See Macaulay: Hist. of Eng., chap. xvi. James II. had landed at Kinsale, from France, in the preceding year.

of Valentia from the mainland, intervene between the larger bays of Kenmare and Dingle.

To the northward of Dingle Bay are Smerwick Harbour, Brandon Bay, Tralee Bay, and Ballyheigh Bay, to which latter succeeds the estuary of the Shannon. Smerwick Harbour and Brandon Bay belong to the northern coast of the peninsula which separates the Bays of Dingle and Tralee. This peninsula, which forms the barony of Corkaguiney, terminates in Dunmore Head, the westernmost point of Ireland. Tralee Bay is generally shallow, and the coast thence northward is obstructed by shoals, as far as Kerry Head, on the south side of the Shannon estuary.

Many small islands adjoin the shores of Kerry. The most considerable of them is Valentia Island, which is between 6 and 7 miles long, and has an area of 6,371 acres. The channel on the north side of Valentia Island forms a deep and safe harbour. The group of the Blaskets lies off the promontory of Dunmore Head, farther to the northward.

The surface of Kerry is eminently diversified, and the county includes within its limits the highest mountains in the island. The coast-district of Kerry is one of the most favoured portions of the British Islands. "The mountains, the glens, the capes stretching far into the Atlantic, the crags on which the eagles build, the rivulets brawling down rocky passes, the lakes overhung by groves in which the wild deer find covert, attract every summer crowds of wanderers sated with the business and the pleasures of great cities. . . . The landscape has a freshness and a warmth of colouring seldom found in our latitude. The myrtle loves the soil. The arbutus thrives better than even on the sunny shores of Calabria. The turf is of livelier hue than elsewhere: the hills glow with a brighter purple: the varnish of the holly and ivy is more glossy; and berries of a brighter red peep through foliage of a brighter green."*

Macgillicuddy's Reeks† (lying within the southward division of the county—a few miles to the eastward of Dingle Bay, and nearly adjacent to the western shore of the Lakes of Killarney) are the highest amongst the mountains of Kerry, and the highest in Ireland. The summit of Carntual (or Carrantual), their highest point, reaches 3,404 feet above the sea. A narrow chasm, the Gap of Dunloe, marks the eastern limit of the Reeks, and divides them from the adjacent summits of the Toomies, Glenna, and Purple Mountains, by which the Lakes of Killarney are immediately bordered on their western side. The entire group (including these last-named mountains with the

* Macaulay: *Hist. of Eng.*, chap. xii.

† That is, Rocks.

Reeks) presents a steep and precipitous face to the southward, subsiding with a more gradual descent into the plain which adjoins their northern base.

The whole of that portion of Kerry which is southward of the parallel in which the Reeks are situated (including the peninsula lying between Dingle and Kenmare Bays) is filled up with high mountains, reaching to the very edge of the adjoining sea. The summit of Mangerton (between 2 and 3 miles S.E. of the upper lake of Killarney) is 2,754 feet. The Cullen Mountain, westward of the Reeks, is 2,231 feet in height; and the adjoining Drung Mountain, which overhangs the shores of Dingle Bay, is of little less elevation.

The most elevated of the Kerry Mountains, however, next to Carntual, is found within the peninsula of Corkaguiney, to the northward of Dingle Bay, where Mount Brandon reaches 3,126 feet, and is second in height amongst the mountains of Ireland. Binshehy, to the eastward of Mount Brandon, is 2,710 feet. The mountains stretching through this peninsula are prolonged to the eastward in the Slieve Mish group, lying S.E. of the town of Tralee.

The middle portion of Kerry, including the plain to the north and north-eastward of the lower Lake of Killarney, with the tracts that adjoin the upper extremities of Dingle and Tralee Bays, is only of trifling elevation. Farther north, the land rises into hills towards the Limerick border, but is for the most part open, and comparatively low, in the neighbourhood of the coast. The group of the Stacks Mountains rises immediately to the northward of the plain in which Tralee stands. The Clanruddery Mountains are farther to the eastward. This portion of the county contains a large extent of bog.

Kerry, though watered by numberless rivulets, has no large rivers. The Laune, which issues from the lower Lake of Killarney and enters Dingle Bay; the Maine, which enters Castlemaine Haven, at the head of the same estuary; the Ruaghty, which enters the head of Kenmare Bay; and the Cashen, which carries its waters to the estuary of the Shannon, a few miles above the entrance of the latter, are the most considerable.

The Lakes of Killarney, the most extensive and beautiful amongst the numerous lakes that belong to this part of Ireland, have been noticed elsewhere.* Of numerous others, the most noteworthy are Lough Guitane (belonging to the same basin as the Lakes of Killarney, from which it is less than three miles distant, to the eastward), Lough Garra, and the Loughs of Derryana, Lannan, and Curraun. The three last-named are connected with Ballinskelligs Bay, by a short stream

* See *ante*, p. 596.

which issues from Lough Curraun, the largest amongst them. Lough Garra has an outflow to the upper portion of Dingle Bay.

Geology.—The rock of which the mountains of Kerry are chiefly composed is a red or brownish-grey quartzose conglomerate, alternating with green and purple slates. This rock forms the uppermost member of the clay-slate, or Silurian series, and is closely allied to the lowest member of the old red sandstone or Devonian system. Slate is quarried in Valentia Island, and good flags are supplied thence. Towards the coast, and in the direction of the river-valleys, the flanks of the mountains support extensive layers of old red sandstone. These are overlaid, within the valleys, by carboniferous limestone, which latter rock appears along the upper part of Kenmare Bay and the course of the Ruaghty river, and covers considerable spaces within the basins of the Laune, the Maine, Tralee, and Cashen rivers. The north-eastern portion of the county, between the town of Killarney and the estuary of the Shannon, belongs to the coal-district of Munster. No coal, however, is worked. The iron-works formerly established within the south-western part of the county ceased to be carried on with the exhaustion of the timber used as fuel in the process of smelting. Copper and lead, as well as iron-ores, abound in the mountainous districts.

Kerry is chiefly an agricultural county. It is the least populous portion of Munster, and, indeed, of the whole island. The chief occupations of the people are dairy-farming, tillage, and fishing. Grain, flour, and bacon, are exported. The fisheries are on a scale of considerable magnitude, and supply the markets of Cork, Limerick, and Dublin.

Kerry is divided into 8 baronies. Its principal towns are:—

TRALEE	. 10,191	|	KILLARNEY	. 5,187	|	LISTOWEL	. 2,273
			DINGLE	. 2,251			

Tralee, the county-town, is a parliamentary borough, returning one member. The county returns two members.

Tralee lies about a mile distant from the head of Tralee Bay, on the banks of a small river, the Lee, which enters the bay. A canal of three miles in length enables vessels of 300 tons to reach the town. Tralee is connected by railway with Killarney and Mallow, and, through the latter, with Cork, Limerick, and Dublin. The town of *Killarney* is only a mile distant from the lower Lake of Killarney: it derives its sole importance from the resort of visitors to the beautiful lakes that bear its name, and to the attractions of the adjacent scenery to the south and west of the lakes. Thirteen miles (in direct

distance) S. by W. of Killarney, is the little town of *Kenmare*, originally a colony planted by Sir William Petty, in 1670.*

The town of *Dingle* stands at the head of a considerable creek on the N. side of Dingle Bay. It has some trade, chiefly in the export of agricultural produce.† *Cahiriveen* (pop. 1,808), situated not far from the opposite or S. side of Dingle Bay, is on a creek—sometimes called the Valentia river—which stretches inland from the neighbourhood of Valentia Island. *Listowel* is in the northern part of the county, on the banks of the river Feale, one of the affluents of the Cashen basin.

* See Macaulay, chap. xii. The road between Killarney and Kenmare passes over a wild and picturesque mountain-tract. From the latter place, crossing the head of the bay by a suspension-bridge, it is continued southward over the mountains that enclose the ravine of Glengarriff, and along the shore of Bantry Bay.

† Dingle, like Valentia and other places on the S.W. coast of Ireland, had formerly much commercial intercourse with Spain. The old houses of Dingle are built in the Spanish style. Valentia Island remained for a considerable time in the possession of the Spaniards, who were not expelled until the period of Cromwell's rule.

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